A Yellowstone Summer with the Junction Butte Wolf Pack

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By Jonathan G. Way

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 - http://www.easterncoyoteresearch.com/store or MyYellowstoneExperience.org
- Previous books by Jonathan Way:
 - Way, J. G. 2007 (2014, revised edition). <u>Suburban Howls: Tracking the Eastern Coyote in Urban Massachusetts</u>. Dog Ear Publishing, Indianapolis, Indiana, USA. 340 pages.
 - Way, J. G. 2013. My Yellowstone Experience: A Photographic and Informative Journey to a Week in the Great Park. Eastern Coyote Research, Cape Cod, Massachusetts. 152 pages. URL: <u>http://www.myyellowstoneexperience.org/bookproject/</u>
 - Way, J. G. 2020 (Revised, 2021). Northeastern U.S. National Parks: What Is and What Could Be. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 312 pages. E-book. Open Access URL: <u>http://www.easterncoyoteresearch.com/NortheasternUSNationalParks/</u>
 - Way, J.G. 2020 (Revised, 2021). The Trip of a Lifetime: A Pictorial Diary of My Journey Out West. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 561 pages. E-book. Open Access URL: <u>http://www.easterncoyoteresearch.com/TheTripOfALifetime/</u>.
 - Way, J.G. 2021. Coywolf: Eastern Coyote Genetics, Ecology, Management, and Politics. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 277 pages. E-book. Open Access URL: <u>http://www.easterncoyoteresearch.com/CoywolfBook</u>.
 - Way, J.G. 2021. Christmas in Yellowstone: A Dream Come True. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 208 pages. E-book. Open Access URL: <u>http://www.easterncoyoteresearch.com/ChristmasInYellowstone</u>.
 - Way, J.G. 2021. Mud, I mean April, in Yellowstone: Nature's Transition from Winter to Spring. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 330 pages. E-book. Open Access URL: <u>http://www.easterncoyoteresearch.com/MudIMeanAprilInYellowstone</u>.
 - Way, J.G. 2021. Yellowstone Wildlife during Summer. Eastern Coyote/Coywolf Research, Barnstable, Massachusetts. 467 pages. Ebook. Open Access URL: <u>http://www.easterncoyoteresearch.com/YellowstoneWildlifeDuringSummer</u>.



Pay it Forward

Dear Reader,

This e-book details, in 510 pictures, the life and times of a famous wolf pack followed during the summer by adoring fans. Summer is the time of year for tourists, heat, and bison jams. For locals and visitors alike, it is an exhausting period because these three ingredients create a considerable amount of traffic and uncomfortable, irritable people on hot, relentless sunny days. However, nature and wildlife thrive in Yellowstone despite the mass of humanity in the world's first national park during the busy summer months. My two week trip from July 21 to August 3, 2021 was no exception, and was highlighted by seeing the Junction Butte Wolf Pack on all 14 days. Yellowstone is quite literally the only place in the world where this is possible.

The 'Junctions' regularly hunted in Lamar Valley and Little America. These two places are open, grassland-dominated valleys where wildlife, especially bison, abounds. Wolves are often seen in these areas. This pack was one of the largest on record, numbering 34-35 individuals during my *Christmas in Yellowstone* trip. During my summer 2021 trip, they were down to around 20 adults and yearlings, plus the new pups of the year. Wolves mostly travel in small groups during the summer so getting whole pack counts can be difficult. In this book, I provide detailed notes and pictures on what I saw during each observation session with the wolves. I also provide images of other wildlife observed during my two weeks in Yellowstone. Lastly, I conclude the book by documenting the tragedy that the Junction pack experienced in winter 2021-22.

This was my 25th trip to the world's first national park, a sort of silver anniversary of my own. To increase access for all people, rich or poor, majority or minority, I am offering this e-book for free to anyone in the world who wants to read it. In this edition, I share with you, the reader, my experience out in the world's first national park during summer. If you enjoy it, all I ask in return is that you *pay it forward* by sharing and please consider a donation of \$10.00 to support my research and education efforts, as well as supporting the book's Open Access format. That is about the price of one movie ticket and you get to own this book, and all of its pictures, forever. If you do not want to donate from <u>my website</u>, you are welcome to email me and I can provide you with a physical address: jon@easterncoyoteresearch.com or <u>easterncoyoteresearch@yahoo.com</u>.

Thanks in advance! Jon Way

Dedication

To Bob Crabtree, Mark and Carol Rickman, Robin Way, and the Junction Butte Wolves. This book wouldn't be possible without these key individuals. Thank you!

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Preface and Acknowledgements

Summer is the time of year for tourists, heat, and bison jams. For locals and visitors alike, it is an exhausting period because these three ingredients create lots of traffic and uncomfortable people on hot, 85+ degree, relentlessly sunny days. However, nature and wildlife continue to thrive despite the mass of humanity in the world's first national park during the busy summer months. My two week trip from July 21 to August 3, 2021 was no exception.

My 14 day stay was highlighted by seeing the Junction Butte Wolf Pack every single day, including my very first and last day in the park which were travel days to and from where I live in Massachusetts. Because of the traffic, the Tower to Canyon Road being closed, and the regularity of seeing these wolves, I decided midway through the trip to focus on watching the wolves as much as possible and travel less. In fact, I never drove beyond the Swan Lake Flat area and thus was in the northern section of the park all trip. I was up by 4:25 AM every morning in Silver Gate, Montana, where I stayed, and out of the door by ~5:00. After resting in Silver Gate during the afternoon, I also went back out into the park on 5 of the evenings solely to watch the Junction pack. The fact that I observed these wolves every time I went out is astounding. Yellowstone is quite literally the only place in the world where watching wolves every day is possible. It helped that the 'Junctions' denned in a visible area above Slough Creek, which was highlighted in my <u>April 2021 book</u> on Yellowstone during the mud season. This area is about a mile northwest of the Slough Creek Campground Road in the Little America region of the park. The den area is separated from people by a waterbody, Slough Creek, which provides a nice buffer from the throngs of people who want to see them.

The 'Junctions' also regularly hunted in the Lamar Valley to the east which is an open, grassland-dominated valley where wildlife, especially bison, abounds. The wolves are often seen in their travels through that area. This pack was one of the largest on record, numbering 34-35 individuals during my *Christmas in Yellowstone* trip. During my summer 2021 trip, they were down to around 20 adults and yearlings in the pack, plus the new pups of the year, which I will discuss in detail in this ebook. About ten of the original members split up during the winter to form '1154F's group' with a female wolf from a different pack (the 8-Miles) while a few dispersed to other locations or died. To add to the confusion, many of the younger wolves traveled back and forth between the two social units, the Junctions and 1154F's group. When 1154F's group did not produce any pups during the 2021 season, those wolves became very mobile since they weren't based at a central location with dependent young.

Wolves mostly travel in small groups in the summer so getting whole pack counts is difficult. Furthermore, the Junctions had an amazing 18 surviving pups from multiple litters during the 2020 season which means they were yearlings during my summer 2021 visit. These young wolves are similar to human teenagers and like to wonder. When there are that many of them, and some freely go between the two packs, it can be downright confusing, even with some of them radio-collared for study.

In this book, I provide detailed notes and illustrations on what I saw during each observation session. We typically observed less than 20 adults (including those full-sized yearlings born in April 2020) per day from the pack even though up to 30-32 adult wolves could have been in the Junction territory, which doesn't even include the new 2021 pups. I also provide details and images of other wildlife observed throughout my two weeks in Yellowstone. Lastly, I conclude the book by documenting the tragedy that the Junction pack experienced in winter 2021-22.

This was my 25th trip to the world's first national park, a sort of silver anniversary of my own. After all of these visits, I have a detailed knowledge of the park which helps to put my experiences into context. In fact, I have published the following previous works based on these trips: <u>My Yellowstone Experience</u> (2013), <u>The Trip of a Lifetime</u> (2020), <u>Christmas in Yellowstone</u> (2021), <u>Mud, I mean April, in Yellowstone</u> (2021), and <u>Yellowstone Wildlife during Summer</u> (2021). This current book marks my sixth in the Yellowstone series. I hope to produce more in the future. Altogether, with my most recent trip of 14 days in July-August 2021, I have been in the park for 227 days, or about two-thirds of a year up to that point!

Steve Cifuni, my good friend and frequent travel companion, drove me to and from the airport which was a big help. He wasn't able to join me on this expedition so I appraised him of my sightings, which kept him jealous all trip. Naturally, I would've felt the same way had our roles been reversed. I had the fortune, like I do on all my other trips, of leaving my vehicle at Steve's parents' house just outside of Boston, Massachusetts.

I also want to thank the people who continue to help me with obligations at home when I am gone including Tara Way, Robin and Tim Way, Michael Way, and Tom Morgan.

Mark and Carol Rickman, long-time friends and wolf watchers from Colorado, provided housing at their wonderful cabin in Silver Gate, Montana. This tiny town is located at about 7,400 feet in elevation, and is in a stunning, mountainous area just outside the northeastern boundary of the park. It was a great base of operations for this two week stay.

Similar to my <u>Christmas in Yellowstone</u> trip, car rentals were exorbitantly expensive in summer 2021, so Dr. Bob Crabtree, Founder and Chief Scientist of <u>Yellowstone Ecological Research Center</u> (YERC), let me use one of the vehicles from his fleet. Due to a snafu with a vehicle not being repaired on time, I ended up using his personal vehicle. Returning from a vacation of his own, Bob, taking everything in stride, went along with it and let me use it until my last day. I greatly appreciate Mark's, Carol's, and Bob's generosity. The trip literally wouldn't have happened without their support.

I've noted the following in previous books, but it is worth reiterating here: While I've been in Yellowstone many times, it has been a relatively short period of time to obtain all of the images, especially of wildlife like wolves, that I have shown in my books. Yellowstone is one of the best places in the world to see and photograph wildlife on a consistent basis. It might take years to obtain similar images in other locations. As you'll notice in these pages, I go all out to make the most of my time when I am there. That doggedness helps to give me enough pictures and experiences to be able to create a worthwhile book.

I want to also thank all of the visitors to and employees of the park who continue to aide me with important wildlife sightings and information. Chief among them is Rick McIntyre, wolf watcher extraordinaire and former National Park Service employee, who I have featured in all of my other Yellowstone books. Rick has had over 100,000 wolf sightings in Yellowstone and continues to venture into the park everyday despite being supposedly 'retired'! I want to also thank Wolf Project technician Jeremy SunderRaj, who is essentially Rick's protégé. The two of them, both of whom I consider friends, provide a mountain of information on the park's wolves and other wildlife. My story would not be as complete and accurate without their knowledge. Many wolves are radio-collared in the park and their signals' facilitate where to look for them and ultimately allows us to view them. In addition to these two individuals, I also spent considerable time on this past trip wolf watching with Susan and Reve Carberry, Doug McLaughlin and Melba Coleman of <u>Optics Yellowstone</u>, Taylor Bland, who is a guide for <u>Yellowstone Wolf Tracker</u>, Steve Johnson and family, Andy and Missy Owens, and Mark Rickman.

There is also a great website, <u>https://yellowstonereports.com/index.php</u>, which details the daily activities of the wolves and other Yellowstone flora and fauna. Laurie Lyman, a retired teacher from California, and a friend of mine, summarizes the happenings of the wolves between her observations and her acquaintances' reports when she is not in the park. Quite amazingly, she writes a daily report of wolf activity on that website to keep folks like me up-to-date when not in the park. When I am there, including during this past trip, I do my part by reporting to Laurie what I see to keep others up-to-date of exciting happenings in Yellowstone. This project, like many of my previous e-books, came about, in part, because many of my Facebook friends (including family members) continue to be absorbed with the pictures that I post when I travel. I appreciate their comments and support – both emotionally and financially – over the years which has given me the motivation to publish many of these manuscripts. I have found that e-books are the easiest and by far cheapest way of producing these pictorial tomes. Those social media posts gave me the outline for this endeavor, including many of the captions, albeit with some edits herein. Additionally, I originally published the links of many of those images on my '<u>My Yellowstone Experience</u>' website on August 6, 2021: <u>http://www.myyellowstoneexperience.org/2021-news-updates/</u>. Here is that announcement:

'Posted August 6, 2021: Pictures from Yellowstone. I was in Yellowstone for 2 weeks from July 21 to August 3 and saw so much including wolves every day, bison all over the place, some coyotes, quite a few grizzly bears, and a lot more. Here are some of my better pictures from that trip:

Days 1-2: https://www.facebook.com/jonathan.way.3/posts/10159839825275016
Day 3: https://www.facebook.com/jonathan.way.3/posts/10159842228660016
 Day 4: https://www.facebook.com/jonathan.way.3/posts/10159844288360016
Day 5: https://www.facebook.com/jonathan.way.3/posts/10159846691645016
Day 6 video: https://www.facebook.com/jonathan.way.3/posts/10159848873270016
Day 6 pictures: <u>https://www.facebook.com/jonathan.way.3/posts/10159849072445016</u>
Day 7: https://www.facebook.com/jonathan.way.3/posts/10159851557885016
Day 8: https://www.facebook.com/jonathan.way.3/posts/10159854083055016
 Day 9: <u>https://www.facebook.com/jonathan.way.3/posts/10159855811995016</u>
Day 10: https://www.facebook.com/jonathan.way.3/posts/10159857855620016

Day 11: <u>https://www.facebook.com/jonathan.way.3/posts/10159861776650016</u>

Day 12: https://www.facebook.com/jonathan.way.3/posts/10159862095245016

Day 13: https://www.facebook.com/jonathan.way.3/posts/10159863894310016

Day 14: https://www.facebook.com/jonathan.way.3/posts/10159868274460016'

After I returned home from the park, I published additional images on Facebook and then on my website including: Video-clips (3) of bison posted 8/10: <u>https://www.facebook.com/jonathan.way.3/posts/10159879895100016</u>

Video of bison near us wolf watching posted 8/12: <u>https://www.facebook.com/jonathan.way.3/posts/10159882981375016</u>

Video of wolves posted 8/15: <u>https://www.facebook.com/jonathan.way.3/posts/10159888804960016</u>

Herein, I detail those 14 days in the park from start to finish in complete and greater detail than those previous sources.

During the expedition, I took 1,306 images with the vast majority being pictures, along with 49 videos. I am increasingly finding that the videos I take of distant wildlife, especially wolves, come out fantastic and are much better than still pictures. To show my Yellowstone experience during this summer season, I use my top 510 pictures. In addition to those Facebook posts, to better tell this story I also referred to the 43 pages of journal notes I took while in the park and the daily reports I sent to Laurie Lyman to help her during those two weeks with her wolf report.

My mother, Robin Way, copy-edited the text to make it more professional, as she always does. Her comments and support over the years have been crucial to my ability to publish quality books. Laurie Lyman helped with fact checking to ensure accuracy. Lastly, the National Park Service provided useful maps to help direct readers to important locations that I visited. Due to the generosity of everyone mentioned in this chapter, I truly regard this and my other books as collaborative efforts.

I hope you enjoy it and are able to donate to support my research which will help keep these e-books in Open Access format. Please see the *Pay it Forward* page at the beginning of this document if you want to support my work. Thank you!

Maps of Places Visited

During this trip, the Tower to Canyon road was closed due to the second year of construction there. While the rest of the park was open, that closure made it very time consuming to drive to other sections of the park from Silver Gate/Cooke City. Thus, I spent all of my time on this expedition in the northern part of the park, especially in the Slough Creek and Lamar Valley area. I actually never went beyond Swan Lake Flat which is about 6 miles south of Mammoth.



A more detailed map of where I spent most of my time while in the park during summer 2021. Due to wolf activity, I concentrated my activity in the Slough Creek to Lamar Valley region (see oval below). Map © of the National Park Service.

Pebble Creek

SHOSHOM

ANDINAS



GALLATIN

GALLATIN NATIONAL FOREST

GALLATIN

MATIONAL

HOREST

NATIONAL

FOREST

A close-up view of the northern part of Yellowstone where I spent all of my time. The Sheepeater Cliff picnic area is the furthest west I drove during this trip given that the Tower to Canyon Road was closed. Map © of the National Park Service.



A topographical perspective of major areas visited during this trip including: Blacktail Deer Plateau to Floating Island Lake to the Elk Creek area (notice Petrified Tree on map) to Tower Junction and the Garnett Hill Loop Trail (8 miles); Slough Creek Campground Road (Little America is the area to the west and this is where the Junction Butte wolf pack denned) to Lamar Valley; Trout and Buck Lakes are just west of Pebble Creek. I stayed to the east (right) of this map in Silver Gate, Montana just outside the Northeast Entrance. Map © National Geographic and Yellowstone Association: Trails Illustrated Outdoor Recreation Map.



Place names of locations in northern Yellowstone in more detail. Purple font indicates pullouts/overlooks where I and others stop to observe wildlife. The Blacktail Plateau is to the immediate west of this map. 'Enclosure' is more commonly called Exclosure Pullout by wildlife watchers. SCHS stands for the general location of the Slough Creek Homesite, whereas CCRS refers to the old Druid rendezvous site at Chalcedony Creek that the Junction Butte Wolf Pack started using on August 1, 2021.



Place names of locations at the Slough Creek homesite that the Junction Butte wolf pack used during spring and summer 2021, in addition to previous years. The two dens that were used were right between the Western and Eastern Trees. This picture is from Bob's Knob off the Slough Creek Campground Road.

Crescent Rock Diagonal Forest Rocky Ridge/Hill Western Trees Eastern Trees **Lion Meadow** Horizontal Forest **Slough Flats Slough Creek**

Another view of the Slough Creek home site that the Junction Butte wolf pack used during summer 2021. The two dens that were used were right between the Western (left circle) and Eastern Trees (right circle). This picture is from the lower parking lot below Bob's Knob off the Slough Creek Campground Road. The arrows below the trees indicate the Lion Meadow (LM).



Day 1: Wolves Already

I left Boston at 6:00 AM and had an hour layover in Chicago before arriving in Bozeman, Montana just before noon Mountain Time. I picked up Bob Crabtree's car from the airport parking lot, as he just went on vacation the previous day, and drove it to the office of his business, <u>Yellowstone Ecological Research Center</u> (YERC). After doing a couple of errands for YERC, and shopping for food, I then drove down to the park, which is about an hour and a half from Bozeman to Gardiner, MT. It rained most of the way down after being sunny when I landed. There also was much construction and traffic in Gardiner as they are making new entry booths (3 to enter versus the original 1) which made it a nightmare to enter the park.

Shortly after entering the park, I saw 6 bighorn sheep in Gardner Canyon, a steep area of scant vegetation. The hills and cliffs provide security for the sheep. I also saw 5 elk near the Mammoth Campground, but didn't see my first bison of the trip until near Floating Island Lake. I saw my first herd of bison, about 50, in Little America on my way to Slough Creek.

The sightings and the traffic made it later than I had planned to get to the Slough Creek Campground Road. I finally arrived at 5:45pm and figured I'd just scope for a few minutes before heading to Silver Gate for my first night. I walked out to the close observation spot on Bob's Knob without any other wolf watchers present and immediately saw wolves at 5:48 PM. They were coming down the Lion Meadow and onto the flats. It was initially 4 adults, including 1 collared gray and 3 blacks. Five pups were with them, 3 blacks and 2 grays. I knew, based on previous reports, that there were 5 gray and 3 black pups in this pack, making a total of 8.

In other parts of the world outside of North America, most wolves of the species *Canis lupus* are gray, hence their common name the Gray Wolf. In Yellowstone, though, roughly half of the wolves are gray and half are black, so it is useful to count individuals by color (e.g., "X blacks and X whites"). That aids with pack and pup counts. Some of the older wolves lighten as they age, with black wolves often turning gray while gray colored wolves sometimes become white.

The 9 wolves bedded at the bottom of the Lion Meadow at the base of the flats for a few minutes, then played before continuing downhill and west. The gray adult led them. I presumed it was 907F, one of the mother wolves who I have observed over the years. It was cloudy to start these observations which actually helped with visibility since I was looking west into where the setting sun would have been.

Rain in Paradise Valley on my drive to the park.



Yankee Jim Canyon





Approaching Gardiner, Montana.



The Roosevelt Arch in Gardiner.





Construction in Gardiner at the North Entrance with three booths being created from the original one that was there (left).

The gray would lead the pups and then periodically stop as the pups played. Two blacks appeared to be yearlings. They were skinny and occasionally looked between the size of pups and adults. I would guess they were around 70 pounds, definitely on the small side. The third black was a limping female, who wolf watchers can easily identify based on her hobbling gait. She trailed the group and often bedded before limping to catch up.

Once the wolves reached the flats near Slough Creek, I scanned the den area briefly and found a black adult below the western part of the Western Trees. It moved W/SW and disappeared behind a ridge when I went back to the main group. At this point, there was a couple scoping with me but more people showed up. It seemed like people to my north, further up the trail, and especially at the lower lot below Bob's Knob, had no idea that this was all happening. But then an education ranger showed up and pointed them out to those groups, which allowed more people to see them.

907F (I presume) led the group to Slough Creek. She went down in the willows about two-thirds of the way from Bob's Knob to the Marge Simpson Tree to my west and toward the back of our viewpoint. At 6:20 PM, all canids disappeared in the willows. We would see them in and out of sight including her and a black crossing the creek to the south, then re-crossing back to the north. The river appeared to be quite shallow. Then, at 6:30 PM, we got lucky. The wolves moved further west and came into a large eroded area at a bend in Slough Creek. 907F took the pups to the water where they played, running in and out of the creek, often soaking themselves. They ran around in circles and the two smaller yearlings also played. The limping female mostly bedded and watched. At this point, a fourth black showed up, I presume the one we saw below the Western Trees a few minutes earlier. The 10 wolves (5 adults and 5 pups) ran all around the area, especially the pups. They stayed local which was great because we would have lost sight of them if they went any further west because the river bends out of our view there.

Just before 7:00 PM, a bull bison walked through the area and moved them. Interestingly, a couple of black pups watched the large bovine from pretty close by and didn't seem particularly nervous. The bull rolled in the sand and created a nice wallow, a preview of what was to come with the bison rut, which takes place in early to mid-August. The wolves went in and out of view in the tall, 'meadowy' grass north of Slough Creek but before the sage hills to the north. That was a perfect time to leave as I had perishables in my car that were beginning to expire. There were also a dozen pronghorns hanging out in the close part of Slough from the Knob. About half of them were babies too!

I arrived in Silver Gate at 'my cabin' at around 8 PM. I reviewed my pictures from the day and saw that some of the images had a gray adult that did not appear to be radio-collared. While I never saw two grays traveling with the group at any one time, it seemed that there were indeed 2 gray adults making a total of 6 adults and 5 pups. This was a great start to the trip despite an exhausting day of travel! It was amazing to have such of a great sighting on the first day of the trip. Bighorn sheep in Gardner Canyon. They were part of a group that was difficult to see as there weren't any good vantage points except for one place in the middle of the road.



Elk, including a calf on right, grazing near the Mammoth Campground. Mount Everts is in the background.



Scenic view of Blacktail Ponds from the car as I drive through the park on the first day.

The second bison that I saw on my first day in the park. This was just a preview of the hundreds of bison that I would see.



Wolves leaving the Lion Meadow and traveling to the flats.



A good perspective of where I was looking in the general den area. "X" is where I first observed the wolves and the "arrow" is the direction they traveled. It is important to note that most of the time when I am watching wolves and other distant wildlife, like grizzly bears, I am looking through my 20-60 X spotting scope which provides detailed views of animals even a mile away. I spend a much smaller percentage of my time taking pictures, despite all of the images found in this book.

Wolf 907F, the mother of the pups, with 5 of her offspring. She is the second ranked female in the Junction Butte pack.
Can you find the 3 adults (2 black, 1 gray) and 5 pups (3 black, 2 gray) in this picture? The grays are harder to see as they blend in with the sagebrush and other vegetation.



Wolves on the Slough Flats entering the river area to the left.

A good perspective of the Junction pups and adults at the eroded bank area at Slough Creek (also see next three pages).





A wide view of where the wolves were about two-thirds of the way from Bob's Knob to the Marge Simpson Tree and toward the back of our viewpoint. Some place names are listed below. An dia hickory and

Wolf location at eroded bank at Slough Creek

Stephen King Tree

the wet the

Marge Simpson Tree



Notice the gray adult playing with the pups. This is when I noticed that the collared gray (907F), who I saw in the Lion Meadow with the pups, was different than this uncollared gray at the creek. 907F was probably just out of this frame.







Wolf shaking off after going swimming in Slough Creek. Next page: What a spectacular first evening in the park.







The black pup on the left side of the image (left) eventually went in and swam in the creek (below).

A bull bison came into the area where the wolves were and caused them to move off.

and the second second second



Pronghorn grazing on the banks of Slough Creek. This was right around the point when I reluctantly decided to leave this wonderful observation spot and drive back to the cabin to unpack my belongings, and more importantly, get my perishable food supplies into the refrigerator and freezer.



Bull bison on the road at the 'Confluence' of the Lamar River and Soda Butte Creek. Bighorn sheep winter on the steep hill to the left (north) of the road.

Day 2: The Slough Creek Observation Site

My alarm went off at 4:25 AM, which it did for the entire trip. I left the cabin in the dark just after 5 AM. It was 50° Fahrenheit in Silver Gate and warmed up to 62° at Slough Creek. That was the warmest it had ever been in the morning of all the times I have been there. I took off layers of warmer clothing until I was just wearing a light sweatshirt and wind pants. So, no long johns, jacket, or gloves which I am used to wearing, at least for a few hours, even during the summer.

It rained all the way into the park, which is about a 30 minute drive to reach Lamar Valley. I saw a herd of about 100 bison in the central part of Lamar and then 200 more crossing the road toward the western part of the valley, which delayed me from arriving at the Slough Creek Campground Road. I finally got there at 5:50 AM.

I met dedicated wolf watcher Rick McIntyre and other people at Bob's Knob, and we had a fantastic morning. From dawn until 7:00 AM the pups were very visible and active. The action started around the bottom of the Lion Meadow where it meets the Slough flats, similar to last night. All 8 pups were there but 3 (2 grays and 1 black) remained in that area and we lost them for a while in the sagebrush. Meanwhile, 2 black adults took the other 5 pups (3 grays and 2 blacks) on a walkabout doing a clockwise circle down to the banks of Slough Creek and then west to just east of where I had observed them the previous night. They then walked back up to the initial sighting location where the grass is seemingly always yellow at the base of the Lion Meadow. They did much playing and exploring on the way. On their trek back up the Lion Meadow, they had to move out of the way of 2 bull bison also in that area. Eventually the wolves met up without much fanfare with the three pups who stayed put and then laid down like pancakes, while remaining visible. Some of the pups chose a bison wallow to nap in!

While watching the pups and 2 adults, I also saw 5 bighorn sheep just west of the Western Trees near the den area. The pups are older now so they do not use the dens where they were born in mid-April. Plus, the bighorn were in steep rocky areas so they generally avoid wolves pretty easily. However, just a week before I arrived in Yellowstone, a couple of young wolves (yearlings or 2-year olds) managed to kill a bighorn just west of this sighting area near the general den location above Slough Creek.

Bison in Lamar at dawn in a light rain.

Bison in the western part of Lamar Valley. This would be the first of many 'bison jams' that I would get into during this trip.

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Slough Creek at dawn. This would be the general observation area for much of my trip.

Junction adults and pups at dawn by Slough Creek.

Two black adults with 5 pups at dawn at the bank of Slough Creek.





Two separate bison bulls were in the Lion Meadow. They caused the wolves to travel around them on their way back up to the Rocky Ridge. Next page: Second bison bull with wolves traveling past him.





The Junction wolves spread out around the bottom of the Lion Meadow with the 2 adults (both at left) and 8 pups visible.



All 8 Junction pups playing around a bison wallow. Most of them would eventually take a nap there.

Rest time is commencing!

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There were reports of between 7-10 wolves in the general area south of the Slough Bathroom while we were watching the 8 pups and 2 adults. I went to the Crystal Creek Pullout from 9-10 AM, which is about a mile west of the Slough Creek Campground Road. Thanks to long-time wolf watcher Melba Coleman, of <u>Optics Yellowstone</u>, I saw 2-3 wolves moving behind the ridges close to the road. I could never get a good view of them before they disappeared and I never spotted the main group but they were clearly moving around in the southern part of Little America. We thought they might cross the road to go back to the pups but it didn't happen while I was there. I managed to find 3 cow elk and 10 pronghorn south of the road and saw a great bison cow and calf herd numbering ~150 on the flats north of the road in Little America.

On my way back east, at 11:05 AM, I saw an uncollared, robust black with a thin white shoulder stripe south of Hubbard Hill. It was moving east along the southern bank of the Lamar River. It was a great view and I watched it for a good half mile as it continued in that direction. I ultimately left the wolf, even though it was visible as it traveled east in Lamar, because I was tired from being in the sun for over 5 hours. It was a great location to watch the wolf as there were quite a few large groups (i.e., over 100) of bison in Lamar during that observation.

After observing the wolf in Lamar, I stopped at the confluence of Soda Butte Creek and Lamar River. It is a beautiful place often just called the 'Confluence' even though there are many other water bodies that join each other in the park; this one is right next to the road so it is very visible. At 11:40 AM, I parked a quarter mile east of the full Trout Lake parking lot and walked down (west) to that lot to hike to Trout and Buck Lakes. It was a beautiful, sunny day and was a perfect opportunity to stretch my legs for a couple of miles on my first full day in the park. The scenery is always so spectacular on that short walkabout.

Bison in Little America.





Pronghorn in Little America.

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Lamar Canyon leading to Lamar Valley (background).


Perspective of where the black Junction wolf was observed in Lamar Valley (also see next page).





Bison in Lamar bedded down among the cottonwood trees.

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The 'Confluence' of Soda Butte Creek and the Lamar River.



Soda Butte Creek along the park road just east of Trout Lake parking lot.

First view from Trout Lake Trail. This view to the east shows the mountains as one drives toward Silver Gate.



Soda Butte Valley, with the park road in the center, viewed from a spur trail off the Trout Lake Trail.





Above: Trout Lake as viewed from the south side. Below: Buck Lake, which is about a quarter mile hike above Trout Lake.



One of my favorite trees, a Douglas fir, at Buck Lake.

Next page: Leaving the park to go back to the cabin in Silver Gate.







The tiny town of Silver Gate, Montana.

I arrived back to the cabin at 1:20 PM on a pleasant afternoon in Silver Gate. I rested and did office work, including reading my emails, organizing my pictures, and checking and posting the day's highlights to Facebook. The internet in Silver Gate is interesting as it is proficient to check email and messages. Streaming shows also works well and I did a lot of that during this trip since the Olympics started on my third day there, July 23, and continued through my stay. However, uploading pictures for email or Facebook is a different experience than downloading media as it often took 15-20 minutes just to send 5-8 images.

While I was resting, I put my hiking boots, which also served as my morning warm weather gear, as well as some clothing on the front deck to air dry. At around 3:30 PM the sky quickly darkened and it started thundering then raining. It continued for ~45 minutes. It was a perfect time for a nap so I laid down in my sleeping bag and quickly feel asleep. When I woke up 20-25 minutes later, I realized that my clothing was out there. "Grrr", I wrote in my field notes when describing the incident. Luckily, they dried off in the cabin that evening.

Having rested during the heat of the day, I went back out into the park at 6:28 PM for dusk observations. It was now partly sunny when I left but it quickly became very windy and cloudy on the drive. Within a couple of minutes, I was driving through a torrential downpour from Silver Gate all the way down to Round Prairie, which is the beginning of the valley system where we see the most wildlife. Then, just as suddenly, the weather cleared, and it became partly sunny in the Soda Butt Valley. Shortly thereafter, in Lamar Valley, I got into a 20 minute bison jam just east of Hubbard Hill and the Yellowstone Institute (also called Buffalo Ranch). These events delayed my arrival to the Slough Creek Campground Road.

I finally arrived to Bob's Knob at 7:16 PM. It was cloudy there which helped with the lack of the setting sun being in my eyes, but the light was low toward the Diagonal Forest and the rocky hill just to the west (in the map chapter I call it the Rocky Ridge/Hill even though we don't officially refer to that area as such). It was consistently windy which made it difficult to steady my spotting scope and tripod. However, I quickly found the wolves just right (east) of the Crescent Rock in the Rocky Ridge area. A couple of people were also scoping from 'Bob's'. We had pup heads up and down with only a few stand ups to reposition themselves. I counted 2 blacks and 1 gray but they weren't very active. Plus, they were in a grassy ravine which made it tough to really see them. The visibility was poor and I'm sure there could have been more if different pups lifted their heads at different times or were down in the grassy ravine out of view.

In addition to the wolves, there was a single, unconcerned cow elk down in the flats, many spread out bison bulls, and a herd of 30-40 bison below the Lion Meadow. "Hopefully they will be more active in the morning," I wrote in my journal. I left the observation area at 8:20 PM and arrived back to Silver Gate at 9:00 to get some shut eye before another 4:00 wake-up.



These are the last pictures of the day. The wolves were not very visible and were too far away to even attempt to take pictures of them under low light conditions.

March 1



Day 3: A Busy Morning with the Junction Wolves

This was another busy day. It began in the driveway as I saw a mule deer while departing the cabin at 5:05 AM. It quickly dashed into the nearby woods. I drove straight into the valley after that and arrived to Bob's Knob at 5:50 AM. We saw wolves all morning but in small groups, usually ones and twos, so it was difficult to keep track of them and characterize the morning. To summarize the over 4 hours I spent at the Slough den/rendezvous area would be that they were the opposite of their winter cohesiveness. We seemed to see a total of 6 adults with only 1 being a smaller, darker gray while the rest were blacks that kept coming and going. I had a two second sighting of 4 pups (2 blacks and 2 grays) together but most of the time we saw 1-2 at a time. It is probable we had all 8 but they weren't photogenic today. They spent most of their time just east of the Eastern Trees near the dens but in the 'Flower Meadow' area that has a ridge where the wolves, pups and adults alike, just disappear into.

Early in the morning, a black wolf chased 3 bighorn sheep rams at full speed on a rocky knob west of the den. Unsuccessful in the chase, that wolf returned to the rendezvous area with an empty belly. Shortly after that, a visitor spotted 3 bedded wolves, 2 blacks and a gray, south of the Campground Road way up near the top of Specimen Ridge by the Lone Tree up there. We viewed them from Bob's Knob probably 2.5-3.0 miles away. Because they weren't active, we did not spend much time with them. Eventually they must have moved from there since they weren't at that spot when we looked again. We couldn't find them again.

The highlight of the morning was when 'Third Mother', a 3 year old black that was recently radio-collared and given the scientific identifier 1276F, came down to the flats and did a walkabout in the marsh. She was relatively close to visitors, getting to within a quarter mile away. She was in tall grass and it looked like she was searching for eggs and other waterfowl-based snacks. I was not able to tell if she actually ate anything or not during her travels. Eventually she walked north up the Rocky Ridge and went into the Diagonal Forest, ignoring a submissive greeting from that only gray adult before she went out of view.

At 9:30 AM, there was a great group howl from the Diagonal Forest. We couldn't see any of the wolves but they were clearly in those woods. Somehow, we missed most of the wolves leave the Flower Meadow near the Eastern Trees and walk across the Rocky Hill area. Again, it was a tough day to keep track of all of the happenings because the wolves were so spread out and not often together.

Observation area from Bob's Knob at Slough Creek showing the Campground Road and a lower parking lot that I used more often later in the trip. Important landmarks around the den and rendezvous site, collectively called the homesite, are noted again here.



An uncollared black wolf approaching the den site's Western Trees. The pups weren't using the actual dens anymore but were still hanging out in the general area. This wolf had just chased 3 bighorn sheep over a very rocky hill. The sheep easily escaped. I watched the chase through my spotting scope and didn't have a chance to take any pictures.

Sandhill cranes in Slough marsh.



Wolf 1276F traveling down the Rocky Ridge to get to the Slough Creek area. She has noticeably light undersides around both of her legs and belly.

Wide view of the bison bull moving across Bob's Knob.

Below: Bison bull trying to 'wolf watch' with the wolf watchers at Bob's Knob at Slough Creek. The area is named after my friend and world famous cinemaphotographer, Bob Landis, since he spends so much time observing from there.

Collared female 1276 close to us in the Slough marsh north of Bob's Knob.



Wolf watchers looking at 1276F in the Slough Flats.

It appeared that 1276F was hunting/searching for bird eggs as she stayed in tall grass, sometimes disappearing in it, for quite a while (also see next page).



Ravens hanging out near us on 'Bob's Knob' at Slough Creek.

Bob's Knob after most people have gone back to their cars in the mid-morning.

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After leaving Bob's Knob, I hiked the 8 mile Garnet Trail. I did this loop during my Christmas and April trips too. It is a really cool area that I enjoy. About a mile into the hike, a female pronghorn paralleled my movements for a good quarter mile before I passed her and she stopped. I also saw a few bison bulls and sandhill cranes. I ate lunch at a beautiful spot overlooking the Yellowstone River about 3 miles into the hike. I typically stop there while on this loop.

The strangest sighting I had was of people. After not seeing a sole for the first 3+ miles, I heard, then saw, four loud people climbing a steep cliff at the northeast section of the trail. They had apparently forded the mighty Yellowstone River and were looking for level ground. They had fishing rods so apparently were hiking to a remote area to fish. Not far from there, the first two people that I encountered on the actual trail, were also fishermen. I had never seen people fishing there which was a good 3 mile hike from the nearest parking lot at the Hellroaring trailhead.

The last 3+ miles, after hugging the Yellowstone River for a couple of miles, was along Elk Creek. It was thickly vegetated in places with narrow passageways given that the steep Garnett Hill was on the west side of the trail for over a mile. I had a sighting of a grouse in some tall grass after seeing a lone bull bison. Not long after that, I came around a bend in the trail, among a thicket of willows, and I was 30 feet away from a black bear. The bear just ignored me, despite me talking to it so it would know I was there, as it was chowing down on grass. Clearly, it was more interested in eating then dealing with a human on the trail. About 100 meters after seeing the bear, I encountered another big bison bull on the trail. I had to walk around it through 'dead fall' (i.e., piles of downed trees) off the trail which was a bit awkward to navigate through. I came out of the woods only about 30 feet from the back end of the bison. Seeing that he wasn't bothered by me, I stepped back on the trail and then walked rapidly away to give the big guy some space.

I finished the hike having to move out of the way of a group of 15 horses not far from the trailhead. It was a party of folks that were likely going to the chuck wagon area in the backcountry. 'Nothing like dodging animals during a hike!', I thought.

It was noticeably hazy on the last mile and a half of the hike. At first, I thought it was going to rain until I realized that it was *just* poor air quality. I arrived back to the car at 2:25 PM and, after eating a snack and gulping down water, I drove back to Silver Gate. The smog was present for the entire drive back to the cabin. While there were no fires in the park, the Western U.S. was ablaze with them during this drought of a summer. It was affecting the air quality throughout the country including the east coast. The smoke was present for the rest of the trip, affecting visibility through my spotting scope when I was wolf watching.





Above: The Garnet Trail starts in open sage at Tower Junction.

Left: Approaching Garnet Mountain (ahead) while walking in sagebrush. It becomes forested at the mountain.



The basalt cliff north of the Yellowstone River about 2 miles out on the Garnet Loop Trail.



This pronghorn doe was my companion for over a quarter mile as she paralleled me as I hiked the Garnet loop. Keeping an eye on me as I hiked by her.

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The almost unrecognizable Garnet Trail marker that I found on my <u>Christmas trip</u> ensuring I wasn't lost.


At about 2.5 miles out on the Garnet Trail, it transitions from open sagebrush dominated vegetation to mixed forest and forestgrassland habitat.

Next page: Mormon crickets were common throughout the hike and just about any grassland that I ventured in during this trip.



Grasshoppers were equally common during this trip. I watched wolf pups hunting in the grass for these two food sources.

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I had lunch at this beautiful spot along the Yellowstone River about 3 miles out into the backcountry on the Garnet Trail. This is the area where my Facebook profile picture was taken in April 2021.



The odd sighting of this hike was seeing 4 people on the north side of the Yellowstone River on a steep cliff face. Below: Two of them are pictured here. They appeared to be fishermen.

Yellow-bellied marmot on the Garnet Trail overlooking the Yellowstone River.



The Yellowstone River bends at the northern section of the Garnet Trail.



A female grouse on the Garnet Trail right by Elk Creek.

Wide view of how I saw the black bear 'magically' appear right next to the trail.

This is what a black bear looks like when it grazes on grass and ignores you from 30 feet away during this happenstance sighting on the Garnet Trail.

A good perspective of the bison bull standing on the trail as I approached him.

Bison bull grazing right on the Garnet Trail at Elk Creek. I had to walk through thick brush to get around him. Luckily, he ignored me while I did that.





The Garnet Trail passed by the stagecoach BBQ chuck wagon area with about 1.5 miles left on the hike. It is quite a dichotomy to hike through there after completing about 7 miles of the workout while people pay to take horses (next page) a round-trip grand total of 2.5-3.0 miles.



This was at the end of the hike with the horses passing by me on the trail. I stepped off the trail to let them pass, a commonsense move to avoid one ton animals!



A lone bull bison caused a long traffic jam in Lamar Canyon on my drive back to the cabin, then I got stuck in a massive jam at the western part of Lamar Valley (below). I arrived back at 3:30 PM and, tired from the first 2+ days of the trip, stayed there for the remainder of the evening, getting caught up on organizing the pictures that I had taken. I was able to stream the opening ceremony of the Olympics in the evening, fully aware of the awesomeness of the location where I was able to watch it from.



My vehicle and home for the two weeks that I was in Yellowstone during summer 2021.

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Day 4: Wolves, Smoke, and The Thunderer

The day, July 24th, started with a more normal temperature for Yellowstone, a relatively chilly 39 degrees, with a beautiful orange moon caused by the smoke from the western forest fires. I arrived in the valley at first light, as is always the case. On my way to Slough Creek, a black wolf was right on the side of the road in Lamar Valley. It was very dark with distinct horizontal white bars on the side of its neck. It looked like it wanted to cross the road so I did a U-turn and parked in Dorothy's Pullout, a parking lot with a commanding view of the surrounding area. My plan seemed perfect as the wolf was traveling east parallel to the park road. That meant that it would likely travel right past where I was standing with my camera and spotting scope. Unfortunately, there were already too many cars in the valley and those drivers, by stopping on the road, pushed the animal off to the north. I only had a disappointing quick view of the wolf as it crested the hill to the north of the lot.

I stayed with the wolf for about an hour, leaving Dorothy's lot and going to Old Road Pullout to the east in the hope of watching it cross the road. However, it wasn't to be as I never saw the wolf again as it likely stayed up in the rolling hills northwest of the Lamar Institute. I did manage to watch a grizzly bear digging for roots from a mile away in the opposite direction of the wolf. This guy was on Amethyst Bench just above the floor of Lamar Valley. Grizzlies gain a lot of calories from many species of roots, such as the caraway. I was told that this particular bear was often there early in the morning and would retreat into woods as it became lighter. That sighting would be the first of many times that I watched a bruin at that location during the trip.

With the action in Lamar, I arrived to Slough an hour later than normal. This proved to be frustrating because the pups had made it all the way down to the creek on the Campground Road side of the creek which meant that all 8 of them and 2 babysitting yearlings were very close to people at the 'Gravel Lot' pullout, so named for gravel piles often being present there (the small stones grade the sides of roads that are frequently used as make-shift pullouts). I was told it was an amazing sighting for those present. Amazing moon picture. It was orange because of the smoke in the sky from forest fires out west, though not in Yellowstone. I was very lucky I stopped at that location on the park road on my way down to the valley. I assumed it would also be very visible in Lamar Valley but it was already behind Specimen Ridge when I got down there. The rolling hills where the wolf was seen in Lamar Valley at dawn. The object (see arrow) to the above left (north) of the wolf (who is circled) is a bison.

Uncollared black wolf in Lamar Valley at dawn. Notice the distinct horizontal white neck bar.



A good perspective of the wolf's location in Lamar Valley.

Wolf standing on hill north of 'Dorothy's Pullout' in Lamar before cresting the ridge and going out of sight.

Perspective of the grizzly bear's location (denoted with an 'X') on Amethyst Bench in Lamar Valley.

Grizzly bear on Amethyst Bench, above Lamar Valley, digging for roots at dawn from over a mile away in the haze.

Even from a distance, the distinctive shoulder hump easily identifies it as a grizzly rather than a black bear.

Perspective of the pronghorn family on the Slough flats just below Bob's Knob.

Pronghorn doe and 2 fawns right below 'Bob's Knob' observation area at Slough Creek.

Ground squirrel in Lamar Valley.

I positioned myself on Bob's Knob, not realizing at the moment that the wolves were closer a mile up the road. I was fortunate to be able to watch the group, plus a possible third adult, from a distance traveling back to their normal area behind the Horizontal Forest and upslope behind the Diagonal Forest. One of the babysitters was the 'Limper', a young black female who had a bum front left leg. Because of her disability, likely obtained from hunting an elk or bison, she often watched over the youngsters. A bigger black was with them and then I saw another black adult come from the flats to the Horizontal Forest. I assumed it was a unique individual and not that second one who may have double-backed around the site. Because of their rapid movement right when I picked them up, I was not able to switch from my spotting scope on my tripod to my camera; thus, I did not obtain any pictures of them.

It was a very good sighting but certainly not what folks saw at dawn from further up the road. The wolves were out of sight once they passed a gap in the trees near some dead aspen trees between the western part of the Horizontal Forest and the southeastern part of the Diagonal Forest. They sleep in the Diagonal Forest and it is thick woods. We have not been able to find a good angle to watch them once they head in there. Thus, the action died down fairly early.

I went back to Lamar as there were reports of a collared gray wolf, 1228F (a 2 year old female), and a black in the western part of the valley that were heading east after leaving Slough earlier in the morning. I went all the way to the eastern part of Lamar and couldn't find any more wolves but did see two coyotes out in the flats. When I switched from using my spotting scope to camera, I couldn't find the pair again even when going back to my scope, which provides a better field of view for viewing animals. They literally vanished in the sagebrush. After about a half hour, I drove west and back to Dorothy's Pullout where I started the morning. There, I was able to see a mother grizzly (sow) and 2 cubs on the 'A to Z Meadow' which is about 2 miles across the hillside just below Specimen Ridge and above Jasper Bench. Bears are often observed foraging on these distant, grassy slopes and therefore are more commonly observed from far away in the Lamar, rather than up-close like bison.

The air was very hazy from the western forest fires even though there isn't a fire in the park. It really puts a strain on the eye when looking through optics. Everything was blurry and it almost felt like you needed glasses until you realized that it was due to the smoke. Thus, I packed up around 9:30 AM and drove east. I decided to hike the Thunderer Trail which is near the Northeast Entrance. I had never done it partly because it is a nearly 20 mile trail that ends in Lamar Valley.

When you read that "I saw a grizzly(s) today", you may think they were right there in front of me. That is usually not the case. This sow and 2 cubs are two miles or more away. This is with my 83 X optical magnification camera fully zoomed in!

Below: This is not intended to be a super clear picture but it zooms in on the mother grizzly and 2 cubs up in 'A to Z Meadow' a good 2 miles away.



The haze made it very difficult to comfortably view this grizzly family.

Bull bison crossing Lamar River below Jasper Bench.






Round Prairie in a smoky haze with Soda Butte Creek in the foreground. I was on my way to hike the Thunderer Trail, which is the mountain above.



Top: Beautiful Soda Butte Creek at the beginning (west end) of Round Prairie. Bottom: This is the beginning of the Thunderer Trail. It required a crossing of Soda Butte Creek, so make sure to bring water shoes as the rocks make it difficult to cross barefoot.



Crossing Soda Butte Creek on the Thunderer Trail.

I set out on the hike at 9:57 AM, knowing that I would quickly get to Soda Butte Creek. I wasn't sure if there was a bridge there, or how the crossing was, so decided to just hike the quarter mile down to it. That proved to be a mistake as there was no bridge, so I quickly jogged back up to the car and grabbed my water shoes, then crossed the rocky creek with them. I stashed them behind a nearby log knowing that I was going to be doing an out and back hike since there was no loop option.

I didn't see much wildlife on the hike but did spot a mule deer shortly after crossing the creek. The trail followed the very eastern edge of Round Prairie before heading up roughly southeast for 3.7 miles to Chaw Pass. It was very wooded and cool for most of the hike, with lush vegetation. A red squirrel chattered at me, giving its characteristic warning call, and I saw 3-4 scat piles from elk and/or moose but did not see any large ungulates on the climb up the mountain.

I went a quarter mile past the pass to overlook Cache Creek Valley. It immediately felt like a different world from up there. It was extremely dry and exposed on the south side of Thunderer, and felt 10-15 degrees warmer. It was also quite windy and I had absolutely no breeze up or down the main part of the trail on the north side of the mountain. The haze prevented good views even though I stood in a place with a commanding vista of the area. If I continued on the trail I would have had a steep descent to Cache Creek, then I would have had to climb back up it to return, so it was an easy decision to turn around and head the 4 miles back to the car.

I flew down the trail, jogging at times to cover ground. I crossed the river with my 'stashed' water shoes, holding my socks and hiking boots, and arrived back to the car at 1:00. It was up to 85 degrees. For the rest of my trip, the afternoon temperatures would reach into the 80s or warmer.

I had hiked light with just a water bottle, bear spray, and camera – no pack to slow me down. So, when I returned to the vehicle, I gulped down another bottle of H_2O . After eating lunch, I headed back to the cabin. It was another good day as I finished cataloguing the new pictures I took at 3:15 PM Mountain Time. Content with good wildlife sightings in the morning, and a nice hike after that, I decided to remain at the cabin for the rest of the day. The Olympics were just starting, so I was able to watch the primetime coverage that started at 6 PM in Montana. Enjoy the pics from Day 4!

The beginning of the Thunderer Trail transitioned from the grasslands of Round Prairie to evergreen dominated forests.

Red squirrel on the Thunderer Trail.



Above left: Probable wolf scat filled with seeds.

Right: Elk or moose scat on the trail. It can sometimes be difficult to tell the difference between the similarly-sized ungulates, especially with a bull elk and cow moose.



Most of the Thunderer Trail was very wooded with lush vegetation.

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Above: The trees at Chaw Pass. Below: The Thunder (right) and Cache Creek Valley (left).



Thunderer Peak from about 4 miles out from the trail head. Notice how much sparser the vegetation was there compared to the climb up the trail on the north side of the mountain.



Day 5: Another Amazing Day in Yellowstone

July 25th was yet another phenomenal day spent with wolves and friends. It began clearer than the previous couple of days, but became hazy later. It was a crisp 43° that quickly warmed into the 80°s. My sightings began early, and in the dark at 5:19 AM on my drive down the park road, when I saw an uncollared black wolf literally above my car climbing the small cliff across the road from Ice Box Canyon after having crossed the road. I turned around to try and get ahead of it at Soda Butte Picnic but it crossed the road in front of me heading southeast toward the river.

I waited in the lot for ~10 minutes, then decided to leave it alone and head to Slough just as it was beginning to get light out. Interestingly, there was a report that around an hour later people saw a black wolf traveling east right near Silver Gate. It was very likely the same individual. We guessed it was a young Junction Butte wolf but have no way to prove that claim.

I arrived at Slough at 5:50 AM, slightly delayed by the wolf sighting. I decided to go to the lower parking lot below Bob's Knob. My friend and expert wolf spotter Doug McLaughlin was there, as he usually is when wolves raise their pups at Slough Creek. He was observing from the back of his truck with his German Shepard, 'Jackson'. The highlight of early in the morning was when a big bull bison passed within 3 feet of our tripods. Numerous wildlife watchers were forced to move out of his way as he just walked right passed us without a care in the world.

The new location proved to be a wise move, however, because I obtained many good pictures from that lot and the sage hill behind it. We saw all 8 pups and 8 adults (2 grays and 6 blacks) including 907F (gray), 1276F, the alpha female (who is an uncollared black), Limper (a black female), very dark black, small colorful gray with saddles, and 1-2 other blacks. The wolves did considerable howling from the rocks just west of the Diagonal Forest, which was very audible from our vantage point. They subsequently went on a walkabout down the Rocky Ridge/Hill to the lower Lion Meadow then to near (but not to) Slough Creek. They then went back up the sage knoll above Slough Creek, to the two rocky hills west of the den, then east past the Western and Eastern Trees, the Crescent Rock, Rocky Ridge, and into the gap in the Diagonal Forest where they normally go out of view.



P7*



A big bull bison walking right by our observation area with Doug McLaughlin of <u>Optics Yellowstone</u> watching at a very close distance. Wow! Bottom: There was a wide-eyed baby in the back of that car next to my scope and tripod! Rick McIntyre observing wolves on the distant hills with bison in the foreground at Slough Creek.



Junction wolves howling on their hangout place on the Rocky Ridge before 10 of them went on a walkabout down to the lower flats closer to us.

Bighorn rams about 1.3 miles away from me and just west of the Western Trees.

Bighorn sheep grazing near the Junction wolf pack's den area. They can normally easily escape to steep cliffs if pursued.



Left: Junction uncollared 'dark black'.

Below: Junction uncollared gray with

While watching wolves, it is always neat to take a break from looking through one's scope and watch the antics of the closer bison, such as this bull rolling in a wallow (below), then standing up (next two pages).





This walkabout consisted of 5 pups (3 grays, 2 blacks), 4 adult blacks (alpha female, dark black, Limper, and 1276F), and 2 full-grown grays (907F and the two-toned yearling). I obtained a few good images as they crossed open areas 'only' about threequarters of a mile away. They were often spread out making it difficult to get them all in a single frame. 1276F spent considerable time near the pups on this day. The sighting ended at 8:50 AM when they returned to the Diagonal Forest and presumably bedded for the day.

I learned on this day, upon reviewing my files, that the videos I took of the wolves came out even better than the pictures. Thus, I started taking daily videos of them, and other wildlife, especially bison, since one can observe so much more behavior from films.

Earlier in the morning, we also saw 12 bighorns to the west of the Western Trees before the wolves went on their walkabout. They were grazing remarkably close to where wolves have spent a significant amount of time this past spring and summer. I've observed elk and bison right at wolf den sites before too. It is amazing how healthy ungulates don't seem concerned at all with the presence of one of the largest wolf packs in the world!

I left Slough at 9:52 AM and drove into headquarters at Mammoth to hike the Beaver Ponds 5 mile loop up above the town. In addition to seeing wolves every day of the trip so far, I've also managed to do a daily hike too. I completed the Beaver Ponds loop during my April trip as well so it was interesting to observe a non-snowy/icy and dry, not muddy, landscape. I didn't see any wildlife on the hike but saw some elk around the town of Mammoth. There are always elk in and around Mammoth as they eat the manicured lawns and avoid wolves and bears in town.

The 1 hour and 15 minute drive back to the cabin was so slow and delayed behind campers and cars that would brake for no reason. There were hundreds of bison in Lamar, likely over 1,000 total. Most of them were down in the flats by the river, but some were up on the road which created those dreaded 'bison jams' that postponed my arrival back to Silver Gate until 2:35 PM. Nevertheless, that still gave me plenty of time to get some office work done and rest before the Olympics started at 5:30 PM. I had decided on the drive from Mammoth that I wouldn't come back out on this day since I already was in the car for so long. I reasoned that I would soon do a dusk observation session in a day or two.

I ate an early dinner, finishing a large box of the generic version of Mac 'N Cheese at 5:18 PM, then had a honey bun for dessert. I fast twice a month for ~40 hours each time. I do it for a myriad of health benefits, from burning fat instead of glucose, to improving my immune system. It just so happens that I chose this day, a Sunday, to start it while in Yellowstone. A big last meal, along with plenty of water, help the transition when not eating for nearly two days.

Wolves traveling out of the sage to the open where we had a better view of them as they began their walkabout, crossing over the Rocky Ridge and down onto the Lion Meadow (pictured here) on their trek downhill toward Slough Creek.



An amazing image of 4 pups and 3 adults including the gray mother 907F.



I began the day scoping from next to the cars (below right), but then climbed the hill when the wolves moved down to the distant flats. The den area (which they were not sleeping in anymore) and Lion Meadow are at the top right.

Wolf 907F with 5 pups on a sage and dirt covered knoll.



A better perspective of the open location of wolf 907F and 5 of the pups. Great view of wolf 907F and limper female (left) with the 5 pups that went on the walkabout.

3 adults and 4 pups in the frame.



Bison in a dust wallow creating a traffic jam on the park road just east of the Slough Creek Campground Road.








Undine Falls, near the Blacktail Plateau. This is a beautiful waterfall right off the main park road as one drives toward the town of Mammoth (also see next page).





A cow elk grazing just outside of the town of Mammoth.



Top: Mammoth Hot Springs at the start of the Beaver Ponds hike. Below: Mt. Everts from the Beaver Ponds trail.



The first part of the hiking trail was very dry with spread out vegetation.





The vegetation became lusher when I reached the first (above) and second (left) Beaver Ponds.

Next page: Ducks were common in the water bodies.



Big Beaver Pond and Mt Sepulcher.



Big Beaver Pond. This was a great 5 mile hike, which actually felt longer than that!



This section of trail was steep and super slippery in April due to the icy conditions. One would never have known that on a late July day!

gi Anne Marriel



Left: Gardiner in haze from the northern terminus of the Beaver Ponds Trail, as viewed to the north.

Bottom: Great view of the town of Mammoth with the hot springs behind it.



This and next page: There are hundreds of bison in these frames and there were probably over 1,000 in Lamar Valley on this day! Notice the haze covering the valley from the distant forest fires.





Day 6: A Day of Fasting while Watching Wolves in Lamar and at Slough

On this day, July 26, I posted a video to Facebook entitled "Here is a video of some true Americans: Gray wolves - 3 adults and 5 pups on a walkabout above Slough Creek." As discussed last chapter, I learned on this trip that video on my camera comes in better than pictures, especially animals from a distance. So, I began taking more .mpg clips. Here is a great short sequence to show the viewer what I have been watching in the park. This link should work even if you do not belong to Facebook: <u>https://www.facebook.com/jonathan.way.3/posts/10159848873270016</u>

It was a moderate 40 degrees on July 26 when I left the cabin at 5:05 AM. I had an easy morning of prep as I didn't have to prepare my food bag, consisting of breakfast, lunch, and a snack. I also had tea every morning in the park which I additionally used as the fluid to make my daily meal of oatmeal and fruit for breakfast. Tea water is a hidden secret to add to the oatmeal as it gives the plain meal some more flavor, and also adds some health benefits. On my fast days, however, I don't even have tea even though it has no calories. I only drink water until I conclude the fast.

At 5:12 AM, I saw a red fox on the park road heading east at Warm Creek. This area is just a couple of miles into the park from the Northeast Entrance. I tried taking a few pictures but it was too dark and they came out poorly. I wanted photoevidence of the little canines since I hadn't obtained any during this trip. Then, just two minutes later, another fox was on the road going west – the direction I was heading – just east of Upper Barronette. I was able to take a couple of blurry images of this one. They were nothing great, but documentation at least of the 'catlike canine' in the park.

I completed a quick scan from Dorothy's Pullout in Lamar at very first light, which in late July is around 5:35 AM. I managed to find the grizzly on Amethyst Bench but couldn't find any wolves. Rick McIntyre reported that he saw a black wolf in the vicinity when he looked from the Institute, about a mile east of my location. It was out of my view from my angle, as I could not find it.

Red fox on the road just east of Upper Barronette. This blurry image is the best one I was able to obtain on foxes during this trip.

A nearly full moon above Jasper Bench and Specimen Ridge in Lamar Valley. I saw a grizzly at first light at the farleft side of this picture.



A close-up of the nearly full moon.

Not wanting to miss any of the early action at the rendezvous site, I drove to the lower lot at Slough Creek. Doug M. was already in position and had spotted all 8 pups. With his guidance, I quickly found them near the Crescent Rock but 'only' saw 4 gray pups, even though others had seen all 5 at one point, and 2 sleeping blacks on the rocks west of the Diagonal Forest. The pups soon stood up and played in a localized area of grass among the boulders and it was then that I saw the third black puppy. After a few minutes of roughhousing, they all wandered to resting areas around 7:00 AM, and were then very hard to spot spread out in the Rocky Ridge and Diagonal Forest. The pictures don't do justice for how difficult it is to observe wolves, especially grays, when they are in the Rocky Hill, which is covered with boulders, grass, and sagebrush, and is over a mile away.

I, and many others, headed to Lamar around 7 AM where other watchers saw 12 Junctions, the main part of the pack, on an almost finished elk carcass in the Lamar River. Most people were viewing the wolves from Dorothy's Pullout and the hill above it. It appeared that the wolves killed the elk during the night. Elk often run to rivers as an escape strategy but it sometimes doesn't work, hence many carcasses being located in or near water bodies. I 'only' saw 7-8 of the wolves in the area when I arrived. Some were feeding, others were resting, and from what I heard from folks that were there before me, a few were headed west to no doubt go back to the homesite and feed the pups and babysitters.

I did have a great view of the wolves that were around the carcass site, including 1276F leaving the carcass area. She was traveling the flats below us which provided great viewing. She had a super-brief greeting with a submissive black, probably a yearling, then continued on her way west and back towards the homesite. I also saw 'Dark Black', named for being jet black, below us as well. Those wolves were about half of a mile away. I watched as the two blacks sniffed in the gravel beds near the river and cached food. Caching is a mechanism for storing food for later consumption. It is very ritualized and instinctual where they first dig a hole, then they deposit food into it either by dropping prey parts or regurgitating. Lastly, they cover the hole by pushing dirt into it with their nose. All canids do that including <u>eastern coyotes/coywolves that I have studied in Massachusetts</u>. Between the two of them I saw 3 total caches.

Dark Black eventually made it back to the carcass area to the east and fed, but then left it around 8 AM. Immediately after he left, a grizzly bear appeared at the site. The bruin fed for a good 10 minutes in peace with no competition, then left to the south. Two black wolves and gray 907F approached the bear casually with no interaction as it fed. But when the bear left the site, 4 wolves (3 blacks and 907F) quickly resumed feeding on the carcass. My observation spot above Dorothy's Pullout, which was just out of view to the right of the image. The 'X' marks the approximate location of the elk carcass.

Three wolves (a gray is in the middle) feeding on the elk carcass as viewed from above Dorothy's Pullout. Notice the ravens nearby.



Four Junction wolves, including gray 907F above the gravel bar, on and around the carcass from above Dorothy's Pullout.



Three wolves bedded above the carcass. Notice how much more difficult it is to see the gray to the right. Imagine trying to find them in low light amongst the grass and sagebrush.





Wildlife watchers at Dorothy's Pullout.







Junction wolf 1276F in Lamar Valley below Dorothy's Pullout traveling west past an uncollared black that also has a rib.





Left: Wolf 'Dark Black' in Lamar as 1276F continues west (below right). She reached the pups at Slough about 45 minutes and over 5 miles later.

Next page: The uncollared wolf that 1276F previously greeted just after it cached meat in the gravel bar by the Lamar River.



Grizzly bear on the elk carcass as viewed from Dorothy's Pullout.



Grizzly bear on elk carcass with an uncollared black wolf casually watching it. Next page: 907F (and ravens) staring at the bear.





Grizzly bear now with gray 907F and 2 blacks near it.

Grizzly bear leaving carcass area as 4 wolves (next page) converge back on the elk.





At that point (8:40 AM), I packed up and went back to Slough. I made sure to chug a water bottle on the way since H_2O was my only 'consumption' during that 40 hour period. I was busy and not thinking about food, which is how I ideally spend my time while fasting. On the drive, I noticed that there were not nearly as many bison in Lamar on this day. I am always curious if the wolves cause them to move away or if they naturally just use different sections of the park for random reasons. I surmise that it is a combination of both.

I parked on the Campground Road right at 9 AM and set up at Bob's Knob with Susan and Reve Carberry. They had 1276F returning to the rendezvous site via the Horizontal to Diagonal Forest. I initially missed her in the Slough flats but was amazed to watch how quickly she returned to the homesite. The 5 mile journey took her about an hour, including crossing the park and campground roads. I also saw Limper sleeping, then briefly get up in the upper gap of the Diagonal Forest where they often rest and near where they head into the woods where the pups were no doubt snoozing away.

I thought I saw a gray wolf returning to the homesite via the Lion Meadow, but when I looked again, I realized it was a coyote. I hadn't seen many coyotes yet during the trip. I saw many more when I was there in April. The medium-size canid made its way two-thirds up the Lion Meadow and looked nervous. It could clearly smell the wolves, which must have their scent marked all over the place! I lost it heading east over the sage and Rocky Ridge east of the Lion Meadow.

When the action slowed down, I headed north on the Campground Road to the Gravel Lot. Jeremy Sunder-Raj from the Wolf Project was there scoping the area. I joined him. There is a better view of the east side of the Diagonal Forest from there. Plus, it is a little closer. However, we still do not regularly see the wolves when they leave the Rocky Ridge and head into the woods. We looked until 10:45 AM when the sun and the heat really hit us, then we called it quits without any new sightings.

Leaving Slough, I drove through the rest of Little America, and saw hundreds of bison. 'Well, that is where many of them went', I thought. I then parked at the Roosevelt Lodge, which is right at Tower Junction. I hiked from there, completing the 3 mile Lost Lake Loop, finishing it at 12:55 PM. I was on a natural high from not eating. My body was clearly in ketosis as it burned fat to generate my body's energy. I made sure to drink a bottle of water on the hike to stay hydrated.

It is an easy, pretty hike with a hidden water body (i.e., Lost Lake) that you can only see by hiking there, including going straight uphill from Roosevelt and finishing by going nearly straight down slope. I didn't have any good wildlife sightings on the hike but did see a beautiful display of wildflowers between Petrified Tree and Lost Lake. There were many shades of purple.


Bison on a hillside in Little America with people watching them.

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Entering the Roosevelt Lodge area at Tower Junction.







Above: View of the Tower area in haze from the Lost Lake Trail.

Left: Wildflowers along the Lost Lake Trail. View from the north side of the Lost Lake Trail as it traverses through open sagebrush with its abundant wildflowers (next page).



Above: Approaching Petrified Tree (right) on the Lost Lake Trail.



Two perspectives of Lost Lake.







Lost Creek Falls, accessed from a side trail off the main Lost Lake Trail near Roosevelt Lodge.

Next page: Lost Creek. Notice the raven (circled) in the far distance above the creek.



Raven resting above Lost Creek with its mouth open, which is the avian version of panting to help it cool off. It was a hot 88° on the drive back to Silver Gate. I saw the same herds of bison in Little America, bedded down in the grasslands seemingly immune to the heat. I also spotted quite a few bison in the eastern part of Lamar Valley, and a few herds in Soda Butte Valley too.

I arrived back at the cabin at 2 PM and was content to remain there for the evening, having already hiked and had great wolf sightings on this day. All in all, it was a very good day. After organizing my pictures and doing computer work, I rested before another night of the Olympics started. I was now going over 24 hours without any calories when the swimming and gymnastics events started. I was looking forward to staying busy, and thus not thinking about food before falling asleep.

Boulder field in Little America.

Bison in a wallow in Soda Butte Valley. The bison rut begins in early August, and the males tend to these sites to advertise their availability to females.





Day 7: All in a Day – Ending a Fast, Watching Wolves, and Playing Basketball

I always sleep strangely on the second night of a fast. I often have many dreams that I do not remember, as I am almost in a hallucinogenic state. Essentially, I'm on a natural high. Nevertheless, I woke up with extra vigor on July 27th as I wanted to get to the carcass site early. I left the cabin at 4:55 AM and arrived at Dorothy's at 5:25 AM, just before first light. As it became light enough to see, I found a sleeping black wolf near yesterday's carcass. Rick M. joined me right after I set up my spotting scope. It would be a few more minutes before other vehicles arrived in the area. We also found a grizzly on the valley floor behind the cottonwoods. It walked south out of sight behind Amethyst Bench. Soon thereafter, I saw a griz on Amethyst Bench in the usual location where we see them in the middle of the open plateau. I couldn't be sure if it was the one from daybreak, but my haunch was that it was a different one, since the first bruin was heading into the woods.

The uncollared black wolf stood up exactly at 6 AM and went to the carcass site, which had 2 eagles on it: one mature with a white head; the other had a brown body which was likely an immature bald or a golden. I guessed a bald since there was that adult next to it. There were also 23 ravens in the immediate area! As I was watching this scene, Jeremy from the wolf project arrived at 6:28 AM, and soon after, he spotted gray two year old 1228F approaching the carcass area from the east. Jeremy picked up her signal with his telemetry gear so we knew she was in the area before we actually spotted her. She didn't spend much time at the carcass, and basically circled it. We assumed at the time that she bedded behind some logs on the riverbank.

With the action slow, it was pretty obvious that the carcass was essentially finished. It is amazing to think that a wolf pack, albeit a large one, and grizzlies consumed an adult elk in one day. Thinking that most wolves were not going to be viewed from Dorothy's, I headed to and arrived at Slough at 7 AM. I went up to join others on Dave's Hill, which is a large knoll on the east side of the Slough Campground Road. It is east-southeast of Bob's Knob and above it. It offers a commanding view of Little America, including Slough Creek and the homesite.

Wildlife watchers had all 8 of the pups right of the Crescent Rock on the Rocky Ridge, like yesterday, with 2 gray adults (likely yearlings) near the youngsters and a third gray to the right who was bedded. We thought that one was 907F but couldn't be sure until she moved ~20 minutes later, and we confirmed it. There were also 1-2 resting black adults with them too. The pack members were clustered and playing very locally among the rocks. The haze from the smoke was bad, so please take the pictures in this chapter with a grain of salt.

A perspective of where the carcass was (X) in Lamar Valley with Amethyst (A) and Jasper (J) Benches in the background.

This and next page: An uncollared black wolf at the carcass site in Lamar with many ravens and 2 eagles perched on the logs nearby.





Here the black is bedded (far left) and gray 1228F (who blends in with the rocks) approaches the ravens and eagles.

Six sandhill cranes and some ravens not far from the almost consumed elk carcass.



Bison below us near the Slough Creek Campground Road with wolf watchers in the distance on Bob's Knob (middle left).

A closer-up view of those bison.

Wolves at the homesite in the haze. In my <u>Facebook post from Day 7</u>, I shared a video where you can see the pups playing with some adults who were likely mostly yearlings (1-2 black ones and 2 grays).

The same animals at the homesite in a pig pile while playing on the Rocky Ridge.

Rick McIntyre, famous wolf watcher and naturalist, telling stories to visitors of some of the wolves and the packs that lived in the park during the past 20+ years.



At 7:34AM, to our surprise and amazement, 1228F appeared below the main group of wolves and came right up the Rocky Ridge west of the Diagonal Forest. She had just been in Lamar Valley at the carcass less than an hour before. She was carrying a leg in her mouth which got the pups and yearlings excited. They all went east into the Diagonal Forest and 1228 fed them there.

The action slowed down after that so I hiked about a quarter mile down the hill then drove north to the gravel lot to see if I could get a better angle of the wolves in the Diagonal Forest. I quickly saw a black adult moving east past the Western Trees, Eastern Trees, Flower Hill/Meadow, then I lost it around the Crescent Rock for a few minutes before seeing it again on the Rocky Ridge before ultimately losing it in the Diagonal Forest. Of course, I could have been at any spot along the Slough Road to see this wolf, but then at 8:13 AM I found a different black lower on the hillside. This one was just above the Horizontal Forest and moved west into the Diagonal Forest. I was pretty confident that this individual would not have been spotted at any other location so I made a wise decision to go there. Plus, I was less than three-quarters of a mile away which was about twice as close to the wolves compared to Dave's Hill.

I was further rewarded with my move at 8:15 AM, as there was a great group howl coming from the Diagonal Forest. It lasted a solid minute and was really special to hear without dealing with ambient human noises since most people were elsewhere at that moment. Twenty-three minutes later, I heard another great group howl which was louder than the previous one. Then, two minutes after the last howl, at 8:40 AM, 3 pups came out of the Diagonal Forest and appeared at the 'Christmas Tree' at the beginning of the Rocky Ridge. This is a smaller confer, likely a Douglas Fir, that is perfectly shaped, hence its name. It provides a good landmark for people familiar with that tree when wolves are near it.

The 2 black and 1 gray pups greeted a big black adult who came out of the Diagonal Forest. I guessed that it was the robust 2 year old male who is part of the pack. Soon 3 more gray pups joined them and they walked in and out of the rocks. They were spread out when I saw 2 more pups, a black and a gray. While their colors matched having all 8 pups, I couldn't be sure if those two were repeat sightings of the first six or indeed were the last two in the litter. Within about two minutes, the pups wandered back into the Diagonal Forest and bedded out of sight, except for one who was barely in view under a shaded conifer.

With the sun fully out, and the wolves bedded, I departed Slough at 9:20 AM and went back to Dorothy's Pullout in Lamar Valley. There were many bison in the area but I heeded them little attention as Dr. Doug Smith, the head of the Yellowstone Wolf Project and Jeremy's boss, was there with a group. We know each other, so I said hi to him and he acknowledged my recent book reviews for the journal Canadian Field-Naturalist. One was on Rick McIntyre's recent book, *The Reign of Wolf 21* (2020), his second in his Yellowstone wolf book series (Rick's third book, *The Redemption of Wolf 302*, came out in October 2021). The other review was based on world renowned Minnesota-based wolf biologist Dave Mech's book *Wolf Island*, a tome about Dave's formative years studying wolves on Isle Royale National Park in the late 1950s to early 1960s.

I congratulated Doug and his team in producing the ground-breaking book <u>Yellowstone Wolves</u>, which is a comprehensive manuscript on wolves in the world's first national park. It had already sold about 6,000 copies in less than a year which was already more than the ~4,000 from his team's 2015 tome, <u>Wolves on the Hunt</u>. The visibility of wolves in Yellowstone, which is obviously very apparent in all of these books, has given numerous scientists the opportunity to study them. Fortunately, there is considerable funding in western national parks to monitor carnivores, unlike the trickle amounts back east. This has helped produce volumes of scientific papers on all aspects of wolf behavior, including predator-prey interactions, wolf-predator (e.g., grizzly bear and cougar) interactions, social behavior, denning behavior, disease ecology, and genealogy.

Content with listening to Doug talk to his group about wolves, I had oatmeal with a chopped up banana and tea water for breakfast to break my fast of 40 hours and 20 minutes. It felt good to eat and the calories nearly immediately rejuvenated me. Some people there, who realized that I hadn't eaten for nearly two days, thought I was crazy. I always use it as a teaching moment to explain some of the <u>benefits of fasting</u>.

I thanked Doug for his time before we departed. Doug was fascinated with my descriptions of some of the work I am doing in <u>Maine documenting the presence of wolves</u>. He also mentioned that he is on the Colorado Wolf Recovery Plan, which is a voter approved law to initiate the recovery of wolves in the state by 2022-2023. I have a keen interest in this project which, in my view, is the second opportunity of a lifetime for a wildlife biologist after the recovery of wolves in Yellowstone that began in 1995-1996.



Lamar Valley from the Institute, also called Buffalo Ranch.



Having had a busy morning and been out in the sun for a number of hours, I went back to the cabin at 11:37 AM to check my emails, organize pictures, rest, and clean the cabin on this day midway through the trip. All of a sudden it somehow was 4:30 PM and I had to leave because I was going to play basketball at the indoor court in Mammoth. Jeremy and others play on Tuesdays at 7:00 and I was excited to join them on this night.

There were sizable groups of bison, and people watching them, from Soda Butte Valley all the way to Junction Butte near Tower. It was really impressive. I probably saw a couple thousand. Incidentally, there were much less from Tower to Mammoth.

I also saw a coyote running east on the park road on the Blacktail on the straight section of that area. It was lanky fellow and was sporting a distinct summer coat. However, I couldn't maneuver my camera to get a picture while driving. And when I turned around to try again, it was out of sight.

I had an hour before hoop when I arrived in Mammoth, so I went to Gardiner and filled up the gas tank since it was 30 cents less there than in the park. I also went to the Gardiner General Store to get a few mid-trip food supplies, namely a six back of Dancing Trout, a kristall wheat ale made by Bayern. They were tasty as I typically had one a night for the remainder of the trip.

The construction at the North Entrance was quite frustrating to deal with on my way back up to Mammoth. I finally arrived there at 6:51 PM. After shooting around for about a half hour, we played pick-up games until 9 PM. It was really fun, especially since my team didn't lose, and we therefore stayed on the court the entire time. There were younger guys from Orlando, Maryland, and a couple of foreign countries; quite a diversity of people working in the park during summer. My only complaint was how slippery the court was. I don't ice skate, but it sure felt like I was when trying to cut to the hoop!

After basketball ended, I went outside into 80° heat at dusk. It felt like air conditioning after running around in that stuffy gym for a couple of hours. To have a Yellowstone kind of night, there were 5-6 elk right by the gym area grazing on narrow strips of grass around the parking lot behind the Mammoth hotel. 'Only in Yellowstone', I thought. There were another half dozen grazing in the foothills just as I left town.

I drove back to Silver Gate from 9:16 – 10:30 PM and it felt like I was in the twilight zone. It was an odd feeling having that natural high from working out hard and having to drive through the park in the dark. Plus, my body was just gaining its strength back from ending the fast earlier in the morning. Fortunately, I only saw a couple of bison bulls on the side of the road and about 6 cows and calves in Little America. I was hoping that there wouldn't be many on the roads since they are difficult to see in the dark. It was a great night of basketball, but it required a considerable amount of driving to allow me to do it.

Bison bull rubbing on a tree at the Junction Butte area.







Straight-away section of the Blacktail Plateau where I just missed getting a picture of a coyote traveling east along the opposite side of the road.



Mammoth basketball court, reminiscent of the movie *Hoosiers*. Also, workout machines on the right side (and on the next page) of the court.

As you can tell from this chapter, I took relatively few pictures (only 36 total) on this day mid-way through the trip. It was nice to not always have the camera ready to go.




Day 8: Junctions at the Homesite and Hiking Bunsen Peak

Due to a natural high I get while playing, I always have trouble calming down after basketball. I didn't fall asleep until around 12:30 AM, meaning I slept about 4 hours on this night. I woke up groggy and July 28th, 2021 started out to be frustrating: I forgot my food bag, which consists of about half of my daily calories, including breakfast, lunch, and snacks. I realized that error when I was in the park around Upper Barronette. Not wanting to fast for another day, I turned around and drove back to the cabin to retrieve it. I mention this only because that put me over 20 minutes behind my normal schedule. At 5:40 AM, and less than a half mile before (east of) Soda Butte Picnic area, a marten, clear as day, crossed the road in front of me. Unfortunately, I couldn't get a picture of it before it ran northwest into the woods. I've seen them in Maine, and have heard of folks sighting them in and around the park, especially the Northeast Entrance area, but I never had until then. It was worth driving back to the cabin retrieve my grub!

On my drive down to the valley, I noticed many bison in the eastern part of Soda Butte Valley, with many grunting bulls. The rut was officially beginning. The two main groups were each over 100 strong, and they both created traffic jams which delayed my progress to get further west. Bison on the roadways is something totally new to people visiting the park. I never tire of seeing them since they are one of my favorite animals; however, after about my third day in the park, I get into the routine of a local since the park is essentially my second home. Therefore, these jams become very frustrating as most of the time people can simply slowly maneuver around the shaggy beasts. They understand a moving car and will usually step out of the way. They also comprehend parked vehicles, which gives them the freedom to use the pavement like they owned it.

On the way to Slough, I saw another coyote on the road. This one was in the western part of Lamar Valley. It ran north onto the flats where I saw that lone black wolf earlier in the trip. I turned around, but couldn't find it again, similar to the coyote on the Blacktail the previous evening. I had been skunked thus far of obtaining any coyote pictures.

I arrived to Bob's Knob, just after 6 AM, to an astonishingly warm 61°. I barely needed a sweatshirt. The action at the wolf homesite was slower on this day. We confirmed 7 of the pups, 4 grays and 3 blacks, on the Rocky Ridge. Initially 2 adults (a gray and a black) were with them. I watched the gray play with the pups in the grass patches among the rocks right of the Crescent Rock. Eventually we found 907F bedded on a boulder. She didn't move much while I was there. It was the same with the black who did get up, but quickly re-bedded. Most of our wolf action at Slough was a different uncollared black who woke up from his/her nap at the base of the Lion Meadow and gradually meandered west to the Marge Simpson Tree, going out of sight behind a sage berm near the Southern Round Tree south of Marge.



These guys need no introduction. The bull (left) is tightly following the cow (right) as their breeding season gets underway. While not the highest quality photograph, it is illustrative of an early morning encounter.



Bison create many traffic jams because people stop when they are on or near the roads.



Our observation area at Slough Creek. The wolves spent most of their time over a mile away to the left of the 'Diagonal Forest' on the Rocky Ridge area on the far-right side of this picture (see arrow).



An uncollared black wolf wandering the Slough Creek flats in the early morning. I did not take any pictures of the wolves on the Rocky Ridge since they were less visible on this day, it was very hazy, and I already had obtained many images of them from there.

I had my breakfast a little after 9 AM. It consisted of the usual: 2.5 packets of oatmeal, a banana chopped in it, and tea water as the fluid. My metabolism was now back to normal from the previous day and a half's fast. The fact that I went out of my way to go back to grab the food bag, along with eating again, must have combined to have my eight day of eating the same meal quite enjoyable.

Most of the regular wolf watchers left the Slough area early on this day. The wolves were mostly resting and we had all observed them already so it was an easy decision to call it quits earlier than normal. I decided to drive west.

At 9:54 AM, I hiked Bunsen Peak above Mammoth Hot Springs. There are two options for this route: a relatively short 4.5 miles up and back or a 7 mile loop around the mountain. I chose the latter, having done the shorter hike a few times on recent trips; it had been a number of years since I completed the full loop. It was still quite hazy which affected the 360° view at the top of Bunsen. The loop took a little longer than I remembered it would. I saw a golden mantled ground squirrel on the hike down the east side of the mountain. It went out of sight before I could obtain a picture. These guys look like giant chipmunks, but they are actually squirrels. Twice I went off trail about a quarter of a mile to the east to try and find a good overlook of the Gardner River and Sheepeater Cliffs, a series of exposed basalt columns named after a band of <u>Eastern Shoshone</u> Indians. However, trees blocked my view both times, although I could hear the river. About a mile later, the trail came to a beautiful overlook of the Gardner River. 'All I had to do was just stay on the trail,' I thought.

I arrived back to the car at 12:46 PM just after it started to rain. It had been thundering for about the last two miles of the hike, with light rain for the last mile. It felt good and produced cooler temperatures, which was a relief.

I ate lunch at Sheepeater Picnic area. This location is a short drive to the south side of Swan Lake Flat where I had just hiked. I saw 5 cow elk in an area of sage and spread out trees just north of the picnic area. The picnic area was busy, and there weren't many tables, but the rain was a blessing in disguise as a spot opened up soon after I walked to the area, having parked a couple of hundred yards away. It was a nice place to relax and look at the nearby rock formations before driving the hour and a half back to the cabin.

It turns out that this would be the farthest I would drive on this particular trip. Because the Tower to Canyon Road was closed for the second year in a row, one had to go to the west side of the park on the Mammoth to Norris Road to get to the southern part of Yellowstone. Having been to the region many times previously, including my <u>recent April trip</u>, I had no desire to fight the inevitable traffic. Plus, I didn't want to miss the daily action taking place with the Junction Butte wolf pack and felt that a long day 'down south' might jeopardize that since I had been waking up so early every day.

Bison near Junction Butte. The flat-topped hill (i.e., butte) to the left is the namesake of the pack that I watched every day of this trip.

Bison were seemingly everywhere where I was except, bizarrely, a couple of my hikes where I didn't see a single one. Hoodoos above Mammoth and near Bunsen Peak, the mountain in the background. From this <u>Live Science article</u>: A hoodoo is a tall, spindly structure that forms within sedimentary rock and protrudes from the bottom of an arid drainage basin or badland. Hoodoos form over millions of years of erosion in areas where a thick layer of soft rock is covered by a thin layer of hard rock. Over time, hoodoos form as a small cap of the hard layer protects a cone of softer rock underneath from erosion.



Golden Gate Canyon. It is an amazing feat of engineering given that this road and bridge were made so many decades ago.

Swan Lake Flat in a hazy fog. You can barely see the distant mountains.

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Grouse (I think a Dusky) on the Bunsen Peak hike. Hoodoos and the park road from an overlook on the way up to Bunsen Peak.

Scree/talus slope on the hike up. This is typical alpine habitat and home of the pika, even though I didn't see any on this trip. The haze was so thick you couldn't even see the Blacktail Plateau from the top of Bunsen Peak. Mount Everts is the ridge on the far left.



Top: Swan Lake Flat and haze from Bunsen Peak. Below: East side of the Bunsen Peak hike with new growth and dead trees from the 1988 fires.



Gardner River Canyon through the haze from Bunsen Peak.

Two perspectives from the east side of Bunsen Peak. This area is lesser traveled than the hike up via the more popular west side.



Butterflies were prevalent on the east side of Bunsen Peak.







A closer view of the Gardner River from the southeast part of the Bunsen hike.

Next page: Contrasting scenes of the Gardner River Canyon and open sagebrush on the Bunsen Peak Trail. As I began the drive back to Silver Gate, I saw 3 elk at the southern part of Swan Lake Flat. No doubt they were some of the group that I saw before lunch. I continued past them not too concerned about missing a photo-op since I have so many elk pictures over the years. However, only about two miles later there was a huge traffic jam on Swan Flat. I debated whether to just drive by it, assuming it was a couple of bull bison, but then I noticed a group of about 25 elk that were super bunched up right near the road and in the open. I haven't seen that many so close in Yellowstone during the summertime in many years. It reminded me of elk in Grand Teton National Park who often group up like that. In Yellowstone, they often do that in the winter and spring, like I saw around Gardiner during that recent April trip. But they seem to be much more spread out during the summer. The large ungulates were looking intently to the northeast and my guess, without confirmation, was a grizzly bear was poking around nearby. They eventually ran off as a tight group further south on the east side of the road. I could never verify what caused them to behave like that.

The drive back to Silver Gate seemingly took forever with bison nearly everywhere from Junction Butte to Round Prairie. Despite the thrill of seeing such magnificent creatures up-close, it can also be very frustrating trying to get somewhere. I got into 3 sizable bison jams: one, at the Yellowstone River bridge as a bull was crossing the bridge to the east heading in my direction; two, in Little America by the Peregrine Hills where there were hundreds on both side of the road and a line of cars; and three, about 100 in the eastern part of Lamar Valley, which was a shorter wait than the first two. Each 'jam' took multiple minutes to pass through, and naturally I also had to slow down a few other times for bulls and other buffalo along and near the road. I also was stuck in one of my first 'horse jams' ever in Yellowstone. It was likely the same type of guided trip as the group I passed by when hiking the Garnet Loop earlier in the trip.

I spotted a couple of lone mule deer on the return voyage and saw a mule deer doe and fawn right at the Northeast Entrance. I finally returned to the cabin at 3:23 PM, completely burnt out from driving. It was an easy decision to stay at the cabin for the rest of the day and start fresh the next morning.



SHEEPEATER CLIFF

This cliff was named for the Shoshone Indians who lived throughout this mountainous region. Their use of bighorn sheep earned them the name Tukadika or Sheepeaters. The cliff is basalt lava that formed "columnar Joints" when it cooled nearly 500,000 years ago. Lunch location at Sheepeater Cliff picnic area. The tables are to the immediate left of this picture. This would be the farthest I went from Silver Gate all trip. Wide angle view of elk on Swan Lake Flat. Notice the cars to the right alongside the park road.

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Elk tightly bunched up on Swan Lake Flat.

Them running away. Notice the dark clouds.



Left: Elk cow in the town of Mammoth.

Below: Horses near Tower Junction crossing the park road onto the Garnet Hill Trail. Bison bull crossing the road in Little America in the rain. This was the first of three major 'bison jams' that I was stuck in on the drive back to Silver Gate from the Mammoth area.

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Bison in Little America on a rainy afternoon.



Mule deer doe and fawn at the Northeast Entrance.



It is always rewarding to have a relaxing evening after a day spent with wolves and hiking the backcountry.



Day 9: Epic Day with the Junctions, a Grizzly Bear, and the Bison Rut

After having spent so much time in the park, it is hard to say a day was truly epic, but it was by 8:00 AM on July 29, 2021. The day started at a warm 55 degrees in Silver Gate and 53-57° in the park, and it quickly warmed up. I can't reiterate enough that I do not ever remember, even in mid-summer, it being so warm in the morning. I am much more used to it being in the 30°s and 40°s early on. I continued to just wear a sweatshirt and wind pants, without any layers, at dawn.

My sightings started early, at 5:12 AM, when a collared gray was traveling east on the park road in the dark. It crossed to the north side of the pavement about a half mile west of Warm Creek. I turned the vehicle around and drove back to the east and parked at the entrance to the Warm Creek hiking trail. Sure enough, at 5:22 AM the wolf trotted right by me about 15 feet away. I could literally hear its nails on the pavement.

Later in the morning, I showed the pictures to Taylor Bland, a guide for Yellowstone Wolf Tracker and a volunteer for the Wolf Project, and she ID'd it as 1228F. Jeremy S-R then confirmed it. This area is very close to the park border but fortunately it was summer and there was no wolf hunting then. Plus, it turns out this was likely a pre-dispersal movement as she came back to the pack soon after (see subsequent chapters).

After seeing 1228F up close, I met Rick in Lamar and we went up Trashcan then Exclosure Hills and watched 7 wolves traveling east with purpose, starting at about 5:45 AM. Rick was there before me since I was delayed watching 1228F. There were 6 blacks with beta male 1048M – who has a distinct whitish face and upper legs – in the lead, 4 uncollared and all relatively dark blacks, and then the female 'Limper' who is also a dark black. It was great to see her moving along so well so far from the homesite at Slough where she often babysat the pups. The one gray was collared and it was the mother, 907F, according to Taylor, who was also watching the group.

Early on during that sighting, at ~6:10 AM we saw a large grizzly, I assumed a boar, traveling east at the tree-line of the alluvial fan. Taylor radioed us the sighting location from a pullout west of our vantage point. There was a bedded bull bison that just ignored the bear and watched it walk by fairly close to it, at least it appeared so from our angle. Yup, bison bulls are that big and confident. We soon lost the bruin as we focused back on the wolves.


Wolf 1228F approaching my parked and turned off car as she traveled past me 12-15 feet away.



These were 3 of the 7 wolves in Lamar Valley at dawn, with collared wolf 1048M leading them.

Five of the 7 wolves in Lamar. The other two were too spread out to get them in the same frame.



Grizzly bear passing right by a bedded bison at dawn, hence the poor light.

A couple of the blacks were very inefficient with their movements and were often *running in the wrong direction* (i.e., west) while chasing each other. These are almost always yearlings who often act like pups just wanting to have fun. Conversely, the lead animals were spread out but traveled with purpose. Those individuals had a serious look on their faces as they trotted along. They tested a couple of groups of pronghorn on the way with one black running full out after the speedy ungulates. Without success, the canines continued east.

We temporarily lost the septuplets in the river corridor, then saw them again climbing the ridges well to the southwest of the Cache Creek hiking trail. They slowed down at the eastern edge of our field of view, then went behind a sage berm where we lost them. We saw some bison, including several calves, monitoring the wolves as they continued east and out of our sight. It seemed pretty obvious that they were heading toward the Cache Creek area which is a river system on the east side of Mount Norris and The Thunderer. Generations of wolves have gone there, likely on their way to climb higher in elevation to search for elk who spend much of the summer on the lofty plateaus south of the Lamar.

We lost them at 6:30 AM. Despite some of the yearlings' antics, they still covered quite a bit of ground during their travels. We stayed for 15 more minutes, verifying that they were not coming back into view, then headed to Slough, after I made a quick stop at the 'Hitching Post' outhouse.

After driving the 10 miles to get there, I arrived at the lot below Bob's Knob at 7:25 AM and immediately saw wolves at Slough Creek, starting with 3 uncollared black adults who were down in the flats at the water. Then at 7:30 AM, 1229F, a 2 year old black female, crossed the Campground Road just north of us, getting within 100 yards as she traveled northwest to the creek. Right after 1229 passed by us, a coyote group howled on the hills behind (southeast of) our location. This area is near 'Secret Passage' where wolves head to enter Lamar Valley. We never saw more wolves coming from there, nor did we see the coyotes because of the rolling hills blocking our view. We assumed the medium-sized canids were just advertising their territory, albeit in close proximity to a large wolf pack.

Realizing that I was too low, at 7:40 AM I speed walked with my gear up to the sage hills between that lower lot and Bob's Knob. There, I instantly had a much better view and knew that it was a wise decision to make the move. Taylor was there with a small group on that same hill, and she pointed out where to see all 8 pups and 7 of the adults! While in the field, we believed there were 'only' 6 adults with the pups but upon reviewing a few video-clips that I took, I counted a clear seventh adult, a black whom I initially missed. The pups are quite large by late July – early August, and sometimes they can add to the confusion of trying to make accurate counts.

Bison on and around the park road.

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Bison bull following a cow near '21's Crossing' and Hitching Post pullout. Cliff swallow in nest at 'Hitching Post' bathroom.



An uncollared black on the banks of Slough Creek.

Wolf 1229F right in front of us at Slough Creek. An incredible sighting after already impressive observations!

1229F traveling to the pups.

Wolf 1229F crossing a creek to get there.



Wolf 1229F finding her family.



A cluster of wolves. I think all 8 pups were there but it was hard to tell from just this picture.



The group was close, about a quarter of a mile away, and were just leaving the river channel when I arrived. There was 1 uncollared gray and 6 blacks, including the alpha female, 1229F, 1276F, and 2 other blacks. I saw 1229F feed the group via regurgitation in a mass of bodies together before they went up through the rocks. Taylor said the pups were all in the water at some point, so I missed the best of the best of them on this day, but I was fortunate to be able to watch them as all 15 wolves moved up the Lion Meadow in a nice line and then diagonally (northeast) across the Rocky Ridge and into the Diagonal Forest. Taylor noted that this was one of her top sightings in the 2 years that she has lived and worked here.

The main action slowed down around 7:50 AM, just as it was getting warmer. After the wolves reached the Diagonal Forest, we only had sporadic sightings. Near the Christmas Tree, the alpha female, an uncollared black 1-2 year old, and that uncollared gray did come back out for about ten minutes after we lost the others in the forest. The younger black howled twice, while most of the group was in the woods out of sight. While there was no immediate response, there was a great group howl a few minutes later coming from the Diagonal Forest at 8:05 AM. The 'strays' still on the Rocky Ridge followed the others into the forest after the howling ceased.

While all that was happening, we saw the bison rut in full swing, with bulls actively sparring each other right below us. There were a bunch of them bellowing. It was hard to believe that we were able to mostly ignore the huge ungulates for about an hour as we were engrossed in following the wolves on their walkabout. In addition, a great-blue heron was standing on top of a sage hill between our observation spot and the creek. It provided fantastic photo ops as it was as still as can be. Then, as I was about to leave the observation hill at 8:40 AM, a badger made an appearance. It walked north to just below the watchers at the lower lot then went out of sight to the west. It was sniffing everywhere.

I then proceeded to walk down the hill and went back to my car. I was on a natural high having already observed 23 wolves by that point: 1228F up by the park border, 7 adults in Lamar (including the yearlings), and 7 adults and 8 pups at Slough. Many late arriving tourists asked me questions about the wolves as I ate my oatmeal and banana breakfast. I happily obliged, explaining how this was a large pack and some often go hunting in Lamar and other parts of their territory (although the Lamar Valley is most visible to people), while a core group is usually with the pups, as was the case on this day.



Great blue heron. This is an amazing, crystalclear image of it standing on a rocky sage knoll above Slough Creek.

Here are 6 of the 8 pups and 2 adults. There are 2 more gray pups that are just out of this frame. I obtained excellent video of them, however (click here). Also, please visit my Facebook page to see another video of the pups and adults traveling together from this date. Having wolves in Yellowstone, where all can view them, is truly a national treasure.

Two trailing black adults.

Bison just west of Bob's Knob. Many bulls in this group were battling each other (see next page).



Bull bison bellowing and grunting after having won a sparring match that <u>I videoed</u>.



A badger sniffing around at Slough Creek.

It became very sunny and warm, but despite the heat I scoped from Dorothy's Pullout in Lamar from 9:40–10:15 AM. I was looking for grizzlies on the higher slopes. Not having any success, I decided to move east. From 10:40–11:11 AM, I finished my morning in the park by watching two different groups of 4 mountain goats each. Three of those 8 were kids. Both groups were halfway up Mt. Barronette and easy to find with their white bodies standing out against the brown rock of the steep cliffs of Barronette. It was fun to watch them as they walked along, foraging on the scant vegetation characteristic of that area of steep, rocky cliffs. The first group I saw consisted of a mother, kid, and two other full-sized goats, while the second set was to the east of them and consisted of 2 females and 2 babies.

I arrived back to the cabin at 11:35 AM, after an amazing morning. An epic day usually means that I will also have a lot of office work in order to organize my pictures, write a detailed report to Laurie, and post the pictures to Facebook, among other tasks. On this day, it took me two hours just to organize the day's data.

While the morning was nice, it rained during the afternoon and was 100% cloudy when I left the cabin at 6:04 PM to head back into the park for dusk observations. There was low fog around Barronette, which provided a scenic picture, and Soda Butte Creek was very muddy from the run-off caused by the precipitation.

At Exclosure Pullout in Lamar, there was a huge herd of about 300 bison. I did my best to navigate around them and the cars that were stopped on the road, but a calf nursing its mother stopped me for ~5 minutes. They wouldn't budge, even when I crept my vehicle up on them, which normally gets bison to move. These sightings were exhilarating and frustrating at the same time.

I finally arrived to the lower Slough Lot at 7:01 PM. It ended up being a slow night despite quickly finding the wolves, who were spread out on the Rocky Ridge east of the Crescent Rock. A collared black, either 1276F or 1229F, aggressively pinned a small, gray two-toned yearling, showing her dominance over that wolf. A two-toned gray means that the gray has dark saddles and highlights on the top of its coat and lighter gray on the side of its body. The other collared wolf, 1276 or 1229, was below the pair previously mentioned. She was bedded among rocks. From that distance, I could not tell the two wolves apart. An uncollared black and the white-faced alpha female were also there, making 4 blacks and 1 gray adult visible. I also saw 2 black and 4 gray pups.

Mountain goats on Mt. Barronette.



The goats are halfway up the mountain and right in the middle of the frame if you look very closely. This gives a good perspective of the steep terrain that they inhabit.



Second group of mountain goats including the 2 kids.

Perspective of that second group of goats.





Low fog around Mt. Barronette.



Soda Butte River saturated in mud.

The wolves wandered around 1–3 at a time, so it was difficult to follow them as a group, except after a 7:11 PM group howl when they briefly interacted and I confirmed 10 wolves. After that sighting, they were mostly bedded. I was one of two people there with a powerful spotting scope, so it was difficult to keep track of them as I was essentially spotting alone. In addition, many visitors drove through hoping to see wolves. Normally, I let people look through my spotting scope, but with little activity from the wolves, it was difficult to show them to people. Plus, it was a tad frustrating as I was the only one there trying to help dozens of tourists see wolves with my personal gear. It is also difficult to keep track of what is going on with the wolves when folks are looking through your optics.

After 7:15, and until I left the area at 8:19 PM, there was not much activity except a bedded howling session at 7:32 PM. Only a few pups moved after that. At 7:52 PM, collared 1229F (I believe) got up and walked west, past the Crescent Rock and into the Flower Meadow where she bedded again. The lack of activity during this evening was disappointing. It had rained earlier, and it was cloudy and cooler, so I thought for sure there would have been more activity. But wolves have a mind of their own. My last sighting was at 8:16, when a black and a gray pup were just west of the Christmas Tree walking among, and soon disappearing behind, boulders.

On my drive through Lamar, I didn't notice anyone seriously scoping in the valley, so I doubt anybody was seeing wolves there. The 3 bison jams I got into on the way back, including at Trashcan Pullout, Soda Butte Valley midpoint, and the western part of Round Prairie, were awesome – sarcasm intended – when I couldn't wait to get back to rest. There weren't many cars on the road then, but a person driving a mini-camper, apparently thinking he was the only one on the road, single-handedly helped create this traffic.

A quick note of interest during this trip was the many New Jersey license plates I saw. It is difficult to know if they were rental cars from there, or if it is families driving out from the east to save money. I suspected the latter. Normally, I see more cars from New York, even though I also saw quite a few plates from there on this trip. It is always interesting to note where cars are from when out west. Every time I am out there, I also see some from my home state of Massachusetts.
'Bison jam' at Exclosure Pullout in the eastern part of Lamar Valley.



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Bison were all around Exclosure Pullout, which was an interesting foreshadowing of my use of that area at the end of this trip.

This bison calf nursing on the park road created a multi-minute traffic jam at the Exclosure Pullout area.

Day 10: Pup Walkabout at Slough Creek, plus Lamar Valley Action

The day started at the typical 55° that I had been experiencing most of the trip, as I left the cabin at 5:05 AM. I drove slowly through Lamar Valley but didn't make any real stops, then I arrived at the lot below Bob's Knob at 5:45 AM. We had the 8 pups running down the Lion Meadow with 2 gray adults, with one of them collared. Based on the wolves moving downhill, I left the lower lot and quickly walked southwest to the hills below Bob's Knob to get a higher vantage spot. I wasn't quite sure who the tagged animal was other than it was not 907F. Taylor B., who was already observing from the hill I joined her on, thought it might be 1272M, a young male who was with 1154's group that splintered from the main Junction pack over the winter. It was a handsome wolf. I also didn't think it was 1228F, so her guess is one that I would trust.

The 10 wolves made it all the way to Slough Creek and continued west. The collared individual, who was very colorful with many different shades of gray, did a considerable amount of playing with the pups as they traveled. He engaged mostly with one of the black pups. Once they were in the river corridor, they were in and out of view down in the willows and other vegetation. At one point, however, we did see the whole group – including the pups – cross the creek. This was a significant move for them as they were just beginning to enter the water. At 6:45 AM, we lost them moving to our left behind a sage ridge near the 'Southern Round Tree', which is south of the Marge Simpson Tree. Many wolf watchers, including myself, then went to Little America to search for them there thinking they might approach the park road. However, despite looking from a few different pullouts, we didn't have any success. On my way back, I got stuck in a large bison jam by the Specimen Ridge Trailhead.

I came back to the Slough area at 7:30 AM and caught up with Jeremy, who was observing from a hill about a quarter mile west of the campground road. We were mostly looking to the south and the general Crystal Creek area, because he had 1228F's signal over there. That means that she traveled over 20 miles from where I observed her the early morning before at Warm Creek to get back to the core of her pack's range. 'Pretty amazing', I thought, since that didn't even include other movements she no doubt did after I saw her at pre-dawn traveling east, away from this area.

An adult gray with the 8 puppies at the Slough Creek homesite.



Pups running after the adult, who they mobbed for a regurgitation. This is the main way they eat this time of year.





Pups mobbing a gray adult. There are 2 adults in this frame (see back right for the second one). The grays are hard to see during the summer because they blend in with the sagebrush, and often 'magically' disappear in it.

Bison jam in Little America. These can become frustrating after the third one or more per day, especially when one is trying to get back to search for traveling wolves.

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Jeremy took a break looking to the south for 1228 and scanned the homesite area to the north. He instantly found the pups coming back up the Lion Meadow. Upon seeing them, I immediately headed down from that hill and drove to Bob's Knob to attempt to get a closer view. However, I was too late as they were all bedded on the Rocky Ridge west of the Christmas Tree. With little activity until I departed there at 8 AM, it was difficult to get a definitive count of wolves present there, although it was highly likely that all or most of the group returned to this familiar location.

While it might not seem like it by reading this book, sometimes after observing intently through my spotting scope for a few hours, I need a break. On this day, that mental interlude took the form of photographing the Lamar Canyon. I always enjoy framing the Lamar River and the beautiful rocky gorge during all seasons. Winter is my personal favorite time of year there, but even in summer – with low water levels – the area is picturesque.

After obtaining the images I desired from a couple of pullouts, I continued east into Lamar Valley. There, wolf watchers had the alpha female of the Junctions, who is an uncollared graying black, due south of the Institute and just south of the river in an open, grassy area. I arrived there at 8:30 AM, but I was told she had already been in view for quite a while before that. She was resting and casually looking around by herself. Her white face was very distinctive.

She remained bedded until about 9:00 AM then stood up and trotted east. She slowly wandered around and rolled in the tall grass multiple times with her four legs in the air. This was clearly self-play which was fun to watch from an aging wolf.

While the dominant female was wandering around, a visitor from Illinois and I found 1048M to the southwest. He was bedded in the sage above the elk carcass from a few days ago. 1048 is a really cool looking wolf with his black pelage graying, especially around his face and front legs, as he ages. He eventually stood up, appearing very gimpy and arthritic, no doubt a sign of his age, and trotted down to the river. There, he bedded on a sand bar next to the water just below a small herd of bison that ignored him.

With little activity from him, I decided to have a quick bite to eat. Waking up at 4:25 AM means that 9:30 AM is already 5+ hours after I roused for the day. I am definitely ready to have my first calories by then, aside from the sugar or honey I often put in my morning tea.







The Lamar River in Lamar Canyon was very muddy from recent rains.



Lamar Valley from the Institute.

Junction Butte alpha female howling.

Junction Butte alpha female. This is a pretty good picture considering it is from about a mile away.

Wolf 1048M of the Junction Buttes.

1048M at the bank of the Lamar River.

C. Hartson



Bison along the road in Soda Butte Valley.

After finishing my breakfast, I couldn't find 1048 despite searching a wide area. I was able to find the female, now to the southeast of my location at the Institute, but soon lost her in a line of Cottonwoods at 9:35 AM. Not sure where the beta male went, I decided to drive east a couple of miles to Exclosure Pullout to search for the alpha female who was moving in that direction. Before that, I summarized my notes to get caught up with the day's activities.

You can probably imagine my surprise when I instead found 1048 and a yearling black, not the alpha female, spread out in the valley moving east upon my arrival to Exclosure at 10 AM. Rick M. and Steve Johnson, and his family from Arizona, were already observing from there. 1048M and the black eventually met up at 10:18 AM at the aspen stand just west of the foothills of the old Druid rendezvous site. They were certainly covering some ground. The uncollared black gave 1048 5 active submissions looking like it was a pup begging for food. 1048M seemed annoyed by the younger wolf's antics and continued east. We lost him in a conifer forest behind the rendezvous berms. The youngster followed him into the trees. There were many bison in Lamar Valley and the wolves ignored most of them in their travels like they were just part of the landscape, which they essentially were, especially since two individuals wouldn't be able to seriously challenge a bison.

I encountered more bison jams while leaving Lamar and driving east through Soda Butte Valley. Having had a successful morning with the wolves, and there not being too many cars on the road, the jams didn't phase me on this day. Wanting to exercise, I then hiked Trout and Buck Lakes from 11:00 to noon. It was my second time this trip traversing this beautiful area. On this jaunt, I managed to loop around Buck Lake, coming across 2 bull bison in the process. There isn't a defined trail on the east side of the pond so I usually do an out and back when I reach the beginning of the lake.

I ate lunch at Soda Butte Picnic area just after noon to enjoy the stream and the beautiful day. Returning to the cabin at 12:38 PM, this was an early day for me. However, being on a two week trip, I needed to treat the afternoon as a business day so I could get caught up on the 'real world' by checking and responding to my emails, paying online bills, posting to Facebook, organizing my recent pictures, and taking an obligatory nap. In the evening, I was then able to get caught up on the Olympics from the evening before and then watch this day's events.

At 6:24 PM, I was interrupted from staring at my computer screen – my means of watching 'television' – to traffic at the edge of the driveway. When I looked out to see why there were slow moving cars there, to my surprise, I watched as a big bull bison walked east on the road heading toward Cooke City. It was almost like the park was coming to me even when I was outside of it!

View to the east of the Beartooth Mountains from the beginning of the Trout Lake Trail. It was still very hazy in the park. One advantage of having a relatively light day is that it is always easier for me to wake up early the following morning. This allows me to head into the park with renewed energy, similar to the beginning of a trip when natural endorphins, from the thrill of being in the park, kick in. It is no different than children on Christmas morning when they wake up super excited to see what presents Santa brought. When I take an afternoon and evening off, it legitimately feels like I haven't been in Yellowstone in quite a while, even though it was essentially just half a day.

Trout Lake.







Above: A cool angle of Trout Lake, as viewed looking to the south.

Left: Canada geese at Trout Lake. I walked right by them. I have no idea how they survive Yellowstone's many predators!

Next page: Trout Lake and the inlet stream in the foreground.



This page, right: My favorite tree, a Douglas Fir, from the southwest part of Buck Lake.

Next page:

Top: Buck Lake from the main, southern view.

Middle: Buck Lake with a nice reflection from the west side.

Bottom: Buck Lake from the north side, looking

south.





Canada geese at Trout Lake.



Bison bull in the backcountry at Buck Lake. He and his companion were big fellas that just walked right by me at the northern tip of the lake.





Top: Buck Lake from the east side.

Left: Columbia spotted frog at the southeastern part of Buck Lake.



Ducks on Buck Lake. I consulted a field guide and could not positively identify them. Ruddy duck was my guess, but those birds are more colorful and do not have the vertical stripe on the side of their head that these birds had. A mystery.



View from 'my' porch of a bull bison walking east on the main road.

Day 11: A Slow Day Despite Seeing 11 Wolves: Only in Yellowstone

I departed the cabin at 5:05 AM, to another warm 55 degree morning, and arrived to the lower lot at Slough at 6:05 AM, after driving straight there. I spent most of the morning with Rick on the hill to the east and above the road to gain a better vantage point, higher in elevation. It was a relatively slow day today despite seeing 11 wolves in their normal homesite area between the Lion Meadow, Rocky Hill/Ridge, and Diagonal Forest. We found all 8 pups and 3 gray adults, including 907F and two probable yearlings. The pictures from this morning were distant, at about 1.25 miles away, so it was a bit of a scavenger hunt to ID them even when looking at the pictures at 83 X zoom. 907 spent most of the morning resting on a big boulder, similar to previous days. She was very visible as she was flat out like a pancake on top of the rock – not too exciting of a sighting, except for a couple of times when she lifted her head and howled. There was a colorful gray yearling and 2 gray pups above right (northeast) of her but they weren't very active either, until one of the pups got up exactly at 8 AM and pooped!

The main "activity" was a gray yearling, one of those 3 adults, who sat alert in the Lion Meadow. It relaxed and babysat the pups who were exploring and investigating on their own, with 2 grays and 1 black pup spending the most time near the attending adult. The most interesting observation today was how spread out the youngsters were as they traveled on their own. A gray pup made it to the bottom of the Lion Meadow, all by itself, while a different gray and a black went up alone to the 'Goalpost Tree' and meadow near the Sage Den. It was tough to keep track of them when spread out like that, and was obviously impossible to get pictures of more than 2-3 at a time. They appeared to be foraging for grasshoppers and rodents. In total, we had 3 gray pups and 2 blacks in the general Lion Meadow area, as they individually wandered down from the Rocky Ridge. Only in Yellowstone can one watch wolves for two solid hours and see a double digit number of wolves and classify the morning as 'slow', but that was the case as all wolves were very dispersed and localized.

At 9 AM, after having breakfast, I went to the Gravel Lot at the northern part of the Campground Road, and scoped with Jeremy. We saw a gray and 1-2 black pups, all separately roaming around the upper part of the Lion Meadow near the Sage Den area. We showed the pups to about a dozen visitors. They were all very appreciative of having the opportunity to see wild wolves. The sun became very warm on this mid-80° day, so I put my gear away at 10 AM.

This scene should be familiar by now since this is where I spent most of my time during the first 11 days of the trip. The wolves were in the center ridge where the 'Diagonal Forest' goes down the right side of that Rocky Hill/Ridge. The den (pups were born mid-April) is just to the left (west) of there in those spaced out trees at the top left of the oval.

Gray yearling howling in the Lion Meadow in the Slough Creek homesite area.

Can you find the 3 wolves in this image? Even with a 20-60 power, very highquality spotting scope, the wolves were difficult to observe on those rocks as they blended right into them. Answer on the next page.





View of the Slough Creek area, with cars parked in the lower lot. Bob's Knob is just to the left (southwest) of this photo. Wildlife watchers were looking toward the right of this picture, where the wolves were spending most of their time at that point in the summer.
Gray yearling in the Lion Meadow, with a gray pup bedded just behind it and 2 black pups to its right. After wolf watching, I then headed to Tower to recycle my disposables and get gas, before heading back to the Yellowstone Picnic area a mile to the west. I parked on the side of the road at a pullout called 'Wrecker Grade'. From there, I jogged west on the road for 0.8 miles, until I reached the trailhead, where I then hiked the 3.2 mile Specimen Ridge to Yellowstone River Trail. Unless one takes two cars or gets a ride, the trail isn't a loop so it necessitates walking on the road to connect the relatively short trail system. It worked out perfectly for me as I took some panoramic images of Junction Butte as I traveled parallel to it. This landform, of course, is the pack's namesake because they were first observed near there, which is about 3 miles away from where we are spending most of our time watching them at Slough. We all – especially myself – get tunnel vision sometime so it is nice to gain perspective of this pack, which formed in 2012.

The easy hike offers beautiful views of the Yellowstone River, Tower Fall area, and Calcite, and finishes at the picnic area, near where I parked 'my' vehicle. I saw a pronghorn buck, a marmot, and many ground squirrels on this hike. Bighorn sheep are often there during the spring and winter, and are sometimes observed in the summertime, but I didn't see any on this day.

I finished the hike exactly at noon and drove to the Confluence again, which is where Soda Butte Creek and the Lamar River converge. The Lamar River was still very muddy, which provided a nice contrast to a clear Soda Butte Creek, which was also muddy only a couple of days ago. A bull bison was perfectly framed in Soda Butte Creek to top it off!

On my way back to the cabin, I saw many bison in Soda Butte Valley for the third day in a row. I then arrived back to Silver Gate at 1:04 PM, where I stayed in for the afternoon for the second consecutive day. It was almost like my body knew what was in store for me the following day and wanted me well rested and prepared for the exciting events to come.

This and previous page: Junction Butte. A butte is a tall, flat-topped, steep-sided tower of rock. This is the formation that gave rise to the name of the Junction Butte Pack due to the progenitors of the group first being observed near there in 2012. This is only 3 miles from the homesite where I spent most of my time during this trip.

This page: Junction Butte from the Specimen Ridge Trail.



Left: A bison wallow at the beginning of the Specimen Ridge Trail. At the trees in the background, I took a right to do the much shorter Yellowstone River Trail.

Below: Mormon cricket. I saw many of them on this trip, especially while I was hiking. They collectively eat a lot of grass, and can become an agricultural pest.



Pronghorn running away from me on the Specimen Ridge Trail on my way up to the Yellowstone River overlook.

Yellowstone River from the Yellowstone River Trail.

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This is the new parking lot at the Tower store. The Tower to Canyon Road had been closed for the past two years (summers 2020-2021) due to construction.







Above: Very west end of Specimen Ridge (left), Yellowstone River, and Tower Fall store area on the right. Below: View of the cliffs above the road to Tower Fall on the Yellowstone River Trail.



Park road and cliff from the Yellowstone River Trail. Notice the heavy machinery on the right, which looks very small here.







Yellowstone River winding around Calcite. I was on the Yellowstone River Trail while taking these images. Most people see this formation from the main observation site off the park road about 1.5 miles above (south of) Tower (see next page). It is a special experience to hike to it and be right across from that area on a cliff on the other side of the canyon. Calcite walkway and overlook area that one takes from the park road near Tower Fall. This view is from across the Yellowstone River canyon from the hiking trail.

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Calcite, along the Yellowstone River.

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The confluence with clear Soda Butte Creek (left) and muddy Lamar River (right) merging. Notice the bison in the distance in Soda Butte Creek.

Bison bull crossing Soda Butte Creek just upstream of the Confluence.

Another picture of the confluence where Soda Butte Creek converges with the muddy Lamar River.





Left: Bison silhouetted in Soda Butte Valley.

Below: That same bison zoomed in.



Day 12: The Big Move

August 1st turned out to be an important milestone for the Junction Butte pups, as well as another epic day for wolf watchers. It began similar to most of my other days, with a 50 degree start in Silver Gate, and a 5:10 departure from the cabin. It was now becoming light a tad later, hence the slightly later departure time. I arrived into Lamar Valley at 5:35 AM at very first light and stopped at Midpoint Pullout, which is by Hubbard Hill. A camper was on my bumper and distracted me in the low light, so I missed where I wanted to stop. Once a couple of cars passed by me, I turned around and drove back to Trashcan Pullout. Rick was at Picnic and didn't realize I had turned around, so he assumed I was ahead (west) of him when I was actually to the east.

Since it had been a few days since I scanned Lamar at dawn, I decided to look around there before I continued on to Slough. I was about to head up the hill north of the road at Trashcan to scope the area, but a bull bison was standing on the incline, so I decided to scan from the parking lot instead. At 5:48 AM, I heard a good howl to the southeast, which was right at the old Druid rendezvous site area at Chalcedony Creek. This area is where the famous Druid Peak Pack used to bring their pups later in the summer in their heyday from the mid-1990s until around 2010. Other packs have subsequently used the area too.

The howling session lasted about a minute and consisted of many wolves. I swore I heard high pitched voices, which meant that pups were there in addition to the lower resonating adults. Adult and yearling wolves often rest at that location even when the pups are far away. This didn't make sense to me at first, because I naturally assumed the Junction pups were 11-12 miles to the west at Slough where they had been since mid-April when they were born. Curious to what was going on, I went up the hill at Trashcan at 5:55 once the bison moved. That gave me a better vantage point with that ~20 feet of elevation gain. However, I immediately noticed that the bull wasn't alone. There was a herd directly below (north of) the hill and there was so much grunting and sparring going on. The rut was now in full swing. I could literally smell them, and repeatedly looked over my backside every minute or so until more people arrived.

Just after setting up my spotting scope, I found moving bodies just to the left (east) of the Western Foothills, which is a well-known landmark at the site, about a mile and a half away. It was just getting light enough to see across the valley at that time. Fortunately for me, Jeremy drove to this spot in his Wolf Project vehicle a few minutes later. I immediately waved at him to come up the hill, which he was probably about to do anyway, since he was picking up signals from some of the radio-collared wolves, and this was a common location to observe them.

My morning 'wolf watching companions' just northeast of Trashcan Hill.

Bull bison in full combat. Every year males die from fighting, and this is a bonanza of food for wolves and grizzly bears in late summer.

Bison sparring behind my observation area. The bulls are full of testosterone during this time of year. I could literally smell their musty odor, as I looked for wolves in the opposite direction. We started to count wolves and quickly had 3 gray and 2 black pups, along with many adults, including the two working collars from 1228F and 1048M. Other wolves were collared in the pack, as I have discussed in previous chapters, but theirs had malfunctioned and were no longer transmitting a signal that biologists could detect. Because the collars are expensive, and it takes a lot of effort and time to capture wolves, this is a very frustrating situation for the people studying them.

We presumed that the pups were relocated the dozen or so miles to this new location under the cover of darkness, a few hours before we arrived there, but there is a chance they started the move earlier the previous evening. Nobody we knew could verify exactly when it occurred because there weren't many people out the prior dusk period. It didn't really matter in the long run since we knew that August 1st would be the first day they were documented switching homesites, regardless of the exact time the pups arrived. I was amazed that 3.5 month old pups could travel that far in one night.

Other wolf watchers, including tour guides, arrived in the area at around 6:20 AM. They were able to contact Rick, aka 'Unit 1', via radio to come back to the east from Slough. Many parts of the park don't have cell phone reception, so walkie-talkie style radios are an often used means of communication. Ironically, one of the best places in Yellowstone for cell reception is along the Slough Creek Campground Road where the pack had just moved from. In fact, there is no cell phone service in Silver Gate, so I had to drive 40 minutes to Slough to be able to use my phone. Fortunately, though, I could receive some iPhone-related messages via WiFi at the cabin.

Right around the same time that Rick was arriving to join us around 6:30 AM, we noticed a good-sized grizzly bear to the southwest of our location. It approached the wolves' rendezvous area moving east but stopped a good ¼ mile before the site and headed south into the trees. We couldn't be sure but it seemed that the bruin knew the canines were there and avoided a confrontation by going into the woods to the west of them.

Jeremy had to leave at 6:45 AM to give a wolf talk to a school group over at Slough where the wolves 'were supposed to be'. Rick was observing with us at Trashcan Hill by then, along with a large crowd, many of whom were very loud. We were able to get our count up to 6 pups, finding an extra gray to make it 4 grays and 2 blacks. That means we were missing a black and a gray pup. Luckily for us, Doug M. had already been to Slough and that was exactly what he saw when he was there – 1 black and 1 gray pup. No adults were with them. It was all adding up that the previous night (or early morning), 6 of the 8 pups were moved. Pups often don't all travel together, but they will usually rejoin each other. We knew that some of the adults would periodically go back to the Slough Creek homesite to check on, and hopefully feed, them.

Scoping from 'Trashcan Hill' toward the old Druid rendezvous site.



Alluvial Fan

Middle Foothill

The old Druid Peak pack's (a famous group of wolves from the 1990s through early 2000s) rendezvous site is on the flats on the left side of this image in Lamar Valley. The Western Foothill is denoted below, while the area of the Middle Foothill is labeled but can't be observed from this view.

Western Foothill

Grizzly bear near the wolves. It never approached them as it went up (south) and into the woods a few hundred meters west of them. Direction of the grizzly bear's path. The wolves' rendezvous site is to the left of this picture.

Many wolves at their new rendezvous site near Chalcedony Creek. A couple of gray 'lumps' are sleeping wolves.



A different image of the same scene showing that some wolves moved from the previous image.

An adult wolf with 4 pups (3 grays, 1 black) after their over 10 mile journey the previous night from Slough Creek.

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The main pack observed on this day included 8-9 black and 3 gray adults, seen here taking a foray to the east with 1 black and 1 gray pup traveling with them in the middle of this image. The 4 arrows point to the grays, including the pup under the second arrow to the left.



Soon after Jeremy left, Rick and I decided to depart from 'Trashcan' and drive a quarter mile east to Exclosure Pullout, which is where there is a ~5 acre fenced-in area to keep ungulates out. Scientists supposedly monitor the vegetation at these sites in the park even though I never see anybody at them. Almost all of the 'exclosures' (or enclosures depending on one's point of view) in the park have more trees and vegetation than surrounding areas, indicating that elk and bison do have a huge 'bottom-up' presence on the landscape by browsing and grazing on plants.

In addition to ditching the large crowds closer to the road, Exclosure offers a much higher vantage point than from Trashcan Hill. That was our main reason for heading up there, as we were having a difficult time getting accurate counts of adults and pups with so many wolves in the area. After climbing 7-8 minutes up the hill, our efforts immediately paid off with a clear view of the rendezvous area. We found 9 adult blacks, including the alpha female and male, 1048M, Limper female, 1276F, and 4 other uncollared 1-2 year olds. We also saw 3 grays traveling to the east. Earlier we had seen 4-5 adult grays, including 907F, in the rendezvous, but just after we went up Exclosure Hill only 3 of them traveled to the east with the blacks. The dozen adults moved along the 'Alluvial Fan', a mostly open area that leads to the trees at the base of Amethyst Mountain at Chalcedony Creek. They seemed to be heading into the woods for the day. We were not sure where the other 1-2 grays went. However, 2 pups – 1 gray and 1 black – followed the main group as they traveled eastward.

Back at the rendezvous area, in between the Western Foothill and Middle Foothill, we found a bedded adult black, which indicated that there were 10 adult blacks in the general area. The wolf was acting as a babysitter, as it was watched the remaining 3 gray and 1 black pups. It was fun to watch them play in a localized, grassy area. We guessed that the main group would remain out of sight until later in the day or evening, but, boy, were we wrong! At 8:10 AM, the main group came back into view traveling west. After 10-15 minutes, they reached the Middle Foothill area and greeted the others in sagebrush which partially obstructed our view.

We obtained a solid count when the main group returned from the fan area and headed back to the 4 pups and now 2 adults, after another black, possibly from that original group, joined the waiting wolves in the open flats just east of the Middle Foothill. The 1-2 grays that were still out of view, and that second black which came back to the 4 pups, made it difficult to know if there were any repeat counted individuals or not, but it seemed pretty clear that we had 9-10 blacks, 4-5 grays (with only 3 seen again when they returned), and the 6 pups. Recall that there were about 20 adults (including yearlings) in the pack during summer 2021, so we had most, but not all, of them there on this morning with a 19-21 count, including the pups.

A view of the rendezvous site from Exclosure Hill, clear across the valley and a safe distance away from the wolves. The over a mile distance away, and separated by the Lamar River (foreground), prevents people from bothering them. The Alluvial Fan and Western Foothill can be seen from this view, while the general location of the Eastern and Middle Foothills are marked for reference.



Four pups (left; 3 grays and 1 black) and 2 black adults (right) in the flats just left of the Middle Foothill, waiting for the main pack to return.



The four pups sniffing around. Two of their siblings went east (left) with the main pack for about half an hour before they came back to the area.

The main group traveling west as they circled back to the central part of the rendezvous site from the Alluvial Fan area to the east.


Another image of them. The gray pup that went with them is in clear view to the left of the rock (see arrow). It was difficult to get all the wolves in one frame, as they were often spread out.



Now the rest of the adults are back at the rendezvous site after their eastward journey. They are just to the left (east) of the Middle Foothill.

This is the last image I took of the Junction Pack at the old Druid rendezvous site on the first morning of their homesite move to there. When the pack reunited, there was much exploring of the general area and they had two good howls. By 8:20-30 AM, most of the activity settled down as the main group, including the pups, retreated to behind the Middle Foothills in an open grassy, aspen area. We imagined the pack was tired following the major homesite move the previous night. As the wolves were traveling to the woods, something got my attention and I stopped using the scope and looked with my naked eye. There, I saw a coyote traveling east on a game trail just below our observation spot on our side (north) of the road. I quickly lost it by a bedded bull bison as it moved toward the Confluence. Again, I struck out obtaining a picture of a coyote on this trip.

I remained in the area until 10:15 AM, while talking with and showing folks the wolves from closer to the road at Exclosure. The wolves were not very active as a whole, but usually a few would be moving around, especially pups. We also did have 2 grays and a black, likely yearlings, in the open around the Middle Foothill area. Heat waves become very strong, making it difficult to observe anything from that distance.

At 10:42 AM, I went to Slough for the first time that day. I thought I lost an important Allen wrench the previous day, so I checked around the Gravel Lot to try and find it. That hex key helps adjust and tighten my tripod legs. I never found it there despite extensively searching for it for about 15 minutes. It turns out, the next day I discovered it in my backpack in a place where I had already looked multiple times! However, while I was at the Gravel Lot, I swore I heard howling coming from the Diagonal Forest. I searched the Rocky Hill/Ridge but didn't find anything. After a full morning, I didn't stay there for too long.

At noon, I putzed around Lamar Canyon to get additional pictures from that scenic area before returning back to the cabin. Rick and I had discussed earlier about returning to Exclosure at dusk, since the wolves just arrived to this new homesite. Therefore, I didn't want to spent too much more time in the park given that I was returning later.

Well, the bison apparently didn't get the memo as they were all over the roads on my way back to Silver Gate. A lone bull bison caused traffic at the Confluence, since that area is effectively a bottleneck with a steep hill on the north side and the Lamar River on the immediate south edge. There was also a relatively large 'jam' at Soda Butte East near Trout Lake, with many cows, calves, and bulls following the females. I didn't get back until 1:05 PM, which was frustrating as I wanted to quickly process all of the data from this busy morning before heading back out.



Lamar River in the Canyon. Notice how muddy the river still is.

Lamar River, as viewed to the east in the Canyon.

6. 1



Top: A different angle of Lamar Canyon and River with park road. Below: Lamar Valley in haze, viewed from the west end toward the east.



The Lamar River in Lamar Canyon is one of my favorite areas. Lamar Valley as viewed from the west end. The wolves new homesite at Chalcedony Creek is ~5 miles from there in the far distance.

Bull bison in full rut with sagebrush jewelry.



Leaving the park for the afternoon, only to come back out during the evening.

I went back out in the evening and arrived to Exclosure Hill at 6:57 PM, after a 40 minute drive. I saw a mule deer doe just inside the park and then got stuck in a massive bison jam of ~200 of the large bovines in the eastern part of Soda Butte Valley. I also was in a minor jam of ~20 buffalo in the western part of the valley.

Up on Exclosure Hill, Rick was a little east of where we were this morning, which put us directly over the Lamar River. It gave us a perfect view of the valley. Wolf watchers Missy and Andy Owens were also there. It was slow for the first hour plus, with lots of spread out wolves, including 4 black and 2 gray adults lying in the meadow in front of the Middle and Western Foothills. We also had the 6 pups from earlier in the day. They were more active than the adults, making them much easier to count. Many of the adults were bedded, so it was hard to get accurate tallies early on in the observation. Soon after, I confirmed the 6 adult wolves that they were seeing when I arrived. Rick found two more adults, raising the tally to 3 grays and 5 blacks. Two of the gray pups were off on their own exploring and investigating well to the east. I didn't see them pounce on anything, but imagined that they would soon be hunting insects and voles/rodents, if they weren't already.

The action picked up at 8:15 PM, ironically shortly after Rick, Missy, and Andy departed. The two wandering gray pups returned to the main group, who were still bedded in the same spot. There was occasional up and down before they returned, then those pups got the other pups back up to have a confirmed 6 count, with the expected 4 grays and 2 blacks. At 8:22 PM, 2 gray adults/yearlings, who were bedded together separately to the northeast of the main group, stood up. The second one appeared to be the male limper whom I observed often in <u>late April</u>. He was moving along fine, with only a slight limp now. 1276F went by them trotting to the east. The 2 grays followed her lead, and so did 2 other dark black adults.

As those 5 went east toward Cache Creek, and as the light was getting lower, the main group started following. Two more dark blacks followed to get the count up to 5 blacks and 2 grays. The sixth black was 1048M, who has a distinctive appearance. Then, the alpha female, with her whitish face, followed. The collared gray, who we thought was 907 earlier this morning, was right behind her. They were easy to count but hard to follow, because they were so spread out. The eight adult black was the alpha male. He had a limp, and a whitish face. Next, were 2 darker blacks behind the alphas. They took their time. I surmised they were yearlings. I also saw 3 gray and 2 black pups follow the pack east, so I was missing a gray. Being by myself made it hard to follow them since they were so spread out. Other watchers were closer to the road, but I didn't really know them, and I also didn't want to lose what I was looking at by walking down the hill to potentially join them. The pups went for quite a ways behind the long line of adults, but were close to each other, especially compared to their elders. They slowed down when they reached the collared gray, their mother.

NORTHEAST ENTRANCE

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This and next page: Bison jam in Soda Butte Valley. Bison jams have become historic in the park, with many occurring every day and nearly everywhere on the Northern Range.





There were a couple hundred bison in this herd, including calves, cows, and bulls.

Bison herd rutting in the flats below Exclosure Hill. The wolves' new homesite was in the distance with the Western Foothill (right arrow) at the top right and the Middle Foothill (left arrow) in the top center of the image. The wolves were sleeping near the 'X' in the grassy meadow between the two foothills.



Bison bull (middle) announcing his victory by kicking up dust after defeating the male in the top left of this picture in a sparring match.

A male eagerly following his female suitor. He had just won a sparring match and was filled with testosterone.

Defeated bull. He had just lost a sparring match to the male in the previous picture.

Two sleeping gray wolves (foreground, circled), with a black wolf sniffing around and 2 sandhill cranes behind it.



Resting wolves at the rendezvous site. It was difficult to count them until they got up.



Wolf watchers Rick, Missy, and Andy scoping from atop Exclosure Hill, well above the park road.



Bison bull crossing the Lamar River to the north, near the park road.

While all of the wolves went east, I noticed a bedded black near the Western Foothill where they were all previously bedded. That would make 11 black adults/yearlings that I had just seen. It never stood up. I assume one of the gray pups was tired from all the exploring and was out of sight in the tall grass, conked out near that babysitter.

As the adults reached the Lamar River where it bends, I stopped following them as I knew it would be hard to keep track of who was who, since they weren't together and the light was getting low. From there, they go up hill behind the trees and follow the Lamar River Trail out to Cache Creek.

I departed the observation area at 8:40 PM, knowing full well that I was waking up in 7.5 hours, and still had a half hour drive to the cabin. In the foreground, there was constant groaning and bellowing from the rutting bison all evening. It was mighty impressive to watch, although I felt bad for the females and, especially the calves, who were probably wondering why those huge beasts were upending their lives, albeit temporarily.

It was a great evening in the company of wolves and bison. By the end of the night, I saw 11 black adults, 3 gray adults, and 6 pups making it a 20 wolf sighting! I arrived back to the cabin at 9:15 PM and proceeded to watch more of the Olympics to help myself settle down before I went to sleep an hour later.



Day 13: The Junction Wolves on My Penultimate Day in the Park

Following my relatively late evening, the alarm on my next to last day in Yellowstone seemingly came early at 4:25 AM. It was 50° when I departed the cabin, a tad earlier than normal, at 5:02 AM. I arrived at Exclosure Pullout in the pitch dark at 5:27 AM, and hurriedly hiked uphill to the observation spot, arriving there right at first light at 5:35 AM. Being the first one to climb the hill that morning, I spooked a big bull bison in the rolling hills on my way up. I am not sure whose heart beat faster, his or mine, after that chance encounter!

With enough light to see the mile plus out to the rendezvous site at 5:40 AM, I spotted a black in the meadow just left of the Western Foothill where I watched the group the previous night. It seemed to be an adult, but I needed more light to see it clearly. I also noticed a pile of sleeping 'mats' in front of the Middle Foothill, which quickly materialized into bedded wolves when I could see better. Susan, Reve, and Rick joined me between 5:45-5:50 AM, and within 10 minutes we saw that single black adult walk to the Middle Foothill, which caused some of the bedded wolves to rise. Three gray and a black pup became active in that local area, then Limper, a hobbled black female, walked to a bedded black adult, likely the alpha female since she had a whitish face, and greeted her submissively by licking her mouth like pups do to adults. The dominant female barely reacted as Limper walked away.

As had been characteristic of the wolves all trip, they were often slow to become active when at the rendezvous site. It was often local activity by younger wolves for longer bouts of time. The adults were often tired from hunting and used the homesite as an area for R&R, similar to human adults at their houses on the weekend after a busy work-week.

At 6:14 AM, a big black adult came in from the east with food in his mouth. There is a dark 2 year old male in the pack who is large, and this seemed to be him. When he arrived, all 6 pups ran to him along with 2 blacks, who were probably yearlings. Limper was one of them, and she was considerably smaller than that male. Two gray adults also greeted the black. One was collared and we thought it might have been 1272M, who is a colorful gray that is often with 1154's group to the west of the Junction pack. A fourth black adult remained bedded. We thought it was the alpha female but until she stood up we couldn't verify who it was. It could have been a fifth black if the alpha female snuck off somewhere out of our view when we weren't looking. I wasn't sure if the big black regurgitated to the group during the greeting but they rapidly devoured the food he brought back in his mouth, so it seemed likely that he also vomited some meat to them too. View of the Old Druid Rendezvous Site at Chalcedony Creek at dawn. This was day #2 of the Junction Pack using this site, about a dozen miles from Slough Creek where the pups previously spent the first 3.5 months of their lives. Notice the bull bison in the river on the right side of this picture.

Bison crossing the Lamar River below our observation site.

Junction wolves greeting each other just after first light.



Junction Butte pack at their new rendezvous location, the old Druid site made famous by one of the first wolf packs to reinhabit the park in the 1990s. There are 1 gray and 3 black adults and 4 gray and 2 black pups in this picture.

A black pup licking the mouth of a baby-sitting adult. This is how they greet their elders, and also how they beg for food, attempting to get fed via regurgitation.



All 6 pups greeting an incoming adult ('Dark Black Male') and getting fed at the old Druid rendezvous site.



More greetings. Notice the many ravens hanging around the area.


Within a few minutes, there was minimal activity. A couple of the black adults walked to the Middle Foothill and bedded on the rise, which was slightly higher in elevation than the surrounding flats. Two gray pups were exploring and investigating to the east of the Middle Foothills in the wide open. A gray adult was watching them nearby. This was similar behavior to the previous evening when 2 gray pups were off on their own foraging and sniffing around.

One interesting observation from this morning was the number of ravens. Ravens closely associate with wolves, and are considered to be brothers by many Native American tribes. Researchers in Yellowstone find ravens at every single carcass that wolves visit, whether they killed the animal or scavenged on it. Ravens often follow wolves, even when they are just traveling. So, it might not be a huge surprise that they closely associate at wolf homesites, especially since the canines spend considerable time there, even though they don't usually hunt there. I counted 35 of the large corvids near the pups, with more by the Middle Foothills. It was difficult to tell if the ravens were randomly foraging, likely on crickets, on their own, or if they were waiting for tidbits from the wolves. I suspected it was a little of both.

At 6:45 AM, we found the light-colored grizzly on Amethyst Bench. That bear had been there for most of my trip, as it dug for edible roots on the plateau, which is about 2 miles from Exclosure Hill. It was always special to see a wild bear without much effort, *while also watching wolves*! The wolves weren't super active on that morning, but it still was incredible to be on a hill overlooking 12 wolves, including the half dozen pups. I guessed that the main part of the pack was still out to the east, and up Cache Creek where I saw them head the previous night.

While we were in Lamar watching those wolves, Susan and Rick communicated with wolf watchers 10 miles to the west at Slough. Doug M. went there at first light before coming to Lamar. He saw the 2 pups there again, but no adults were with the black and gray youngsters. There was some concern among the wolf watching community that the pack may have abandoned them, but more veteran watchers, like Rick and Laurie, have documented this happening repeatedly. Eventually – usually within days – wolves will collect the stragglers and reunite them with the others. Time would tell for the 2021 crop of Junction pups.

There was only localized activity at the Old Druid Rendezvous site through 7:20 AM. At that time, I heard a coyote howl three times over the Exclosure fence to our west. I never found it and wondered if it was the same one that I had seen the previous day below me. If it wasn't, it was likely part of the same social unit.

A great perspective of the rendezvous site, with good morning light.

Adult wolves with pups at the rendezvous site.



Adults traveling to the Middle Foothill (the background 'hump') to rest, with some of the pups following them. The activity slowed down for the morning after the adults bedded.

As we were listening to the howling coyote, a large bull bison walked within 40 feet of us. He was directly behind us when we were looking south toward the homesite, but was in our field of view when we searched for the coyote. At least one of us kept our eye on the big guy to make sure he didn't come any closer. We were all used to seeing bison up close. We weren't tourists, so we never approached them. While we weren't too worried by his presence, it was important for us to keep in mind that there was a 2,000 pound wild animal in our close proximity.

The bull proceeded to bed down and roll in the dirt, then just looked around, almost like he was comfortable in our company. I thought that he was likely the bison that I spooked on my climb up the hill a couple of hours earlier. I also reasoned that he was possibly a bull that lost a sparring match, and was a singleton just staying out of harm's way of other bulls up there.

The bison stayed bedded for ~15 minutes, then stood up. We became vigilant again, in case he walked toward us. We were standing on a game trail that all animals, including humans, used. The bull walked parallel by us, 30-40 feet away, as he connected to the wildlife run. We were all amazed, even after years of seeing the large bovines, of this close yet controlled encounter. We seemed to have an understanding that if we left him alone and didn't approach him, he would respect our space too. As he went out of site around a bend to the east, I thought that was an interesting route, since it took him toward the Confluence and to a really steep hill area more suitable for the nimble bighorn, over the plains dwelling bison.

I left Exclosure Hill at 8:21 AM. Except for a couple of active pups, the group was all sacked out in the rendezvous. Following breakfast at the truck, I drove to Slough and set up my spotting scope at 8:56 AM. Doug was back over there and had a quick sighting of the two pups by the Christmas Tree, at the edge of the Diagonal Forest. I didn't see them, but at 9:38 AM I heard two sad, desperate sounding howls in the Diagonal Forest. These wails were clearly made by the pre-pubescent pups, and not by adults. We felt for the little guys, as it seemed pretty obvious that they were calling out to the group, basically saying something in wolf language like, "Where are you? We are still here. Come back!"

Missy and Andy were in Lamar earlier in the morning as well, but then observed with us at Slough. I was able to see the 2 pups after Missy found them at 9:42 AM, shortly after they howled. They were on the boulders on the Rocky Ridge, between the Crescent Rock and Christmas Tree. As we watched them, they disappeared from our field of view behind a boulder. Missy and I were both watching them when they seemingly vanished. We were both shocked that we couldn't find them again. But it was nice to at least have a 10-15 second view of the two of them, which validated their presence with my own eyes.

A wide-angle perspective of just how close the bull bison was to us. Susan Carberry is the most visible watcher in the middle, wearing the bucket-style hat. Our spotting scopes are pointed toward the wolves at the rendezvous site over a mile away.

The close bull grazing, with other bison near the top of the exclosure fence.



Bison bull grazing 40 feet from us as we wolf watched.



The bull then proceeded to bed down near us, before getting back up and walking by a mere 30-40 feet away (also see next page).





I packed up my gear at 10:19 AM, then checked my messages and emails. The Slough area continued to be one of the only reliable places in the park for cell phone service. As I was reading, I heard howling at 10:28. I set up my spotting scope again and scanned the area, but I was frustrated that I could not find them. I then left the Campground Road for good for the morning.

I proceeded to leave Slough and drive a few miles west, where I took some interesting pictures of the boulder fields in the western part of Little America. This area is a clear sign of Yellowstone's relatively recent glacial past 10,000-12,000 years ago. Unless wolf watching from there, I often drive by the area. Wolves don't spend much time over there during the summer, so my scoping usually takes place during a different season.

I also stopped at Soda Butte Cone to take photos. There were people watching a bison herd, and that provided some nice perspective images of wildlife watchers in action. On my way back to the cabin, I saw a mule deer doe in the grass grazing near Warm Creek. I reminisced back a few days earlier when I saw wolf 1228F in the same location in the pre-dawn darkness. I was saddened that my trip was nearing its end point, despite having a great two weeks in the park.

I arrived back to the cabin just before noon, and proceeded to cleaned it. I then packed up and organized my gear. Mark Rickman, my friend and owner of the cabin, was on his way to spend the week in Silver Gate. He normally travels from Colorado with his wife Carol to wolf watch and hike for a couple of weeks at a time. For this trip, however, he was planning on working on the cabin, including staining the exterior logs. To help him, his brother-in-law Tim arrived the day before. We had watched some of the Olympics together, so I got to know him as it was the first time we had met.

At around 4:00, Tim and I saw someone stopping traffic on the main road right at the edge of the driveway of the cabin. We assumed it was road construction, which was ongoing during that summer in the area. We found that odd because it had down-poured at 2:00. Water had even come through the roof and onto the woodstove pipe, which created a small puddle by the stove. That had only happened one other time in the 18 years since Mark and Carol bought the property.

Tim and I started to get suspicious about the traffic when Mark didn't arrive, especially considering he called from Cody, Wyoming and said he would be there in a couple of hours, *at about noon*. It turns out, the worker was there because there was a major landslide about a quarter mile from the cabin. Mark got stuck in it for an hour and a half as bulldozers had to move the mud, sand, and debris, including a few trees. I normally like to venture outside, but I was busy working on packing my gear and processing my images. I didn't feel the need to get wet in the rain when I assumed it was just roadwork.

Needless to say, Mark was thrilled to finally arrive around 6 PM. I made pasta and sauce for the three of us, which we all devoured. It was wonderful to get caught up with Mark, as I hadn't seen him in person in a few years, despite staying at his cabin during that timeframe. I felt so fortunate to have friends that were ultra-kind. This literally has made my numerous ventures out west possible.

We discussed much of the wolf activity in the park, especially the large Junction pack, as well as the pending wolf reintroduction in Colorado slated for 2022-2023. Whenever I am out there, I am always amazed how much I have in common with so many people in Yellowstone. It is always easy to communicate with someone when you have the same interests, even though Mark is a surgeon and I am a wildlife biologist and educator.

Aspen pullout in Little America.



Boulders in Little America, with Specimen Ridge in the background, are a relic of Yellowstone's glacial past.

A panoramic perspective of the western part of Little America, with many boulders visible.



Soda Butte Cone.







This framerica basisan concernant musical as forming more times a pointure, ago by a mort spring. Doly should annually of hydrochaltmail water and hydrogen sufficient gas concerning flow frame hold once works of collicity apring this formation and address and point of it linguit r minute defines of address and point of it.



Wildlife watchers observing bison at Soda Butte Cone Pullout.

Day 14: 14 for 14! Wolves Observed Every Day of the Trip

What a fantastic two weeks I had in Yellowstone. I was very fortunate to be 14 for 14 in seeing the Junctions every day I was there, including my very first and last days, which were also travel dates. It was not lost on me that this is the only place in the world where it is possible to see wild wolves so regularly.

On this last day in the park, I woke up at my normal time to 50 degrees outside and very wet conditions from rain that continued through the night from the previous afternoon. I left the cabin at 5:10-5:15 AM, after I packed all of my luggage, keeping my observation gear (tripod, scope, and camera) out and usable. After a stop at the Pebble Creek Campground lot to recycle and throw away a small bag of trash, I arrived at Exclosure at first light at 5:45 AM. The usual cast of characters from the previous few days were there, including Rick, Susan and Reve, and Missy and Andy. Mark woke up early too, and joined us for the morning observation session.

It was light enough to see when we arrived uphill to the observation spot at 5:52 AM. We immediately saw wolves out in the rendezvous site, mainly just east of the Western Foothill in the grassy meadow. But there wasn't much activity to begin with, and it took longer than normal to have decent light to be able to identify individuals, due to the saturated cloud cover. After a good half hour of minimal activity, 3 blacks, all likely yearlings including Limper, traveled east into the sagebrush flats. The trio played for about 5 minutes, then the 2 uncollared blacks took off to the east at a decent clip, going all the way up into the Lamar River corridor, then uphill to the Cache Creek Trail. It was a very cool sighting, as we could follow them for a few miles given that they chose a higher travel route in full visibility. Limper, meanwhile, returned back to the main group, about a quarter mile to the west, and aroused the 6 pups.

At 6:45 AM, the 4 gray and 2 black pups moved enough where we could identify them. Then they played with a gray yearling in a localized area, which caused other wolves to awaken. Eventually, we had a total of 11 blacks and 7 grays, including the 6 pups and 2 yearlings that went up Cache Creek. There were 9 adult/yearling blacks and 3 full-grown grays. The only collared ones who we could see were 1276F and 1048M. We spotted two other gray-faced blacks, in addition to 1048, which signified that the alpha male and female were also there. 907F, the gray mother, was not there. Many of us hoped that she was at Slough collecting the other two pups. However, Jeremy did not detect her signal over there when he checked later that morning.

The 'Old Druid Rendezvous site' at first light in a light rain in the eastern part of Lamar Valley. This was the third day the Junction pack was located at this site with most of their pups.



Wolves at first light. Most of the 18 wolves were bedded and then became active just as it was getting light out.





The pictures aren't high quality due to a lack of light, but one can get the idea of what we were looking at. Conditions are usually not ideal when observing wide-ranging, often nocturnal creatures.



The Junction Wolf Pack's new rendezvous site in Lamar Valley. The wolves liked spending time in the open grass area ('X') in the center of the picture, before the tree-line. We named those knobs and small hills for ease when referring to where the wolves were. They often rested in the aspens at the base of the forest when it became hot and sunny.

Middle Foothill

🖉 Western Foothil

The wolves slept for most of the morning. They were difficult to count while bedded, so we eagerly waited for them to get up and move around the homesite.



These are the two yearling wolves that left the rendezvous site and traveled east up Cache Creek.

While we were observing the wolves, a male pronghorn bedded about 100 feet east of us. Yesterday, it was North America's largest ungulate next to us, while on this day it was the second fastest land animal in the world, capable of maintaining speeds of 45 MPH for miles. The buck seemed content to relax next to us, only casually keeping an eye on us. Pronghorn like open, flat country, therefore he was at the periphery of his preference in those rolling hills.

I was only able to wildlife watch until 7:30 AM, before I had to leave Exclosure Hill. I needed to arrive in Gardiner around 9:00 AM and Bozeman at 10:30-11:00 AM, to catch my 12:30 flight. Despite the relatively low levels of activity on this morning, I was still able to see 18 wolves: 11 blacks and 7 grays. They remained mostly inactive until I left. The pronghorn also stayed bedded near our observation location. Due to the clouds, the light remained low through the early morning and it rained intermittently, so the pictures were of relatively poor quality. But at least you can get a feel for what we were watching.

I arrived back to the car at 7:40 AM, and only stopped for a few scenic pictures while I drove west toward Gardiner: Elk Creek and 'One Tree Hill', Floating Island Lake, and some drive-by as I was in the vehicle. I had spent considerable time at those locations on previous trips, but literally had not yet stopped at them for the entire half month I was there, until then.

At 8:45 AM, I stopped at the pullout just west of the Rescue Creek Trail. This was a half mile from the North Entrance of the park in Gardiner. There, I wolfed down some oatmeal and packed my belongings, putting away my tripod and spotting scope. Apparently, I left the lights on in the truck when I stopped (no doubt due to the cloud cover). To my shock, the car wouldn't start when I tried about 15 minutes later. I couldn't believe I had done that after driving the Tundra for literally two full weeks.

Panicked, I took out the jumper cables in the truck and had to look at the owner's manual to figure out how to open the hood. I flagged down an Xanterra employee, but they legally couldn't help me in their work truck, even though I had the jumper cables right there, as they noted. They radioed for help to someone who could assist me. Xanterra is the park's concessionaire that runs the hotels and gift shops. On any other date, the wait would've been a minor inconvenience, as I usually had all day to spend in the park. But my pending plane flight kept me anxious, and pacing back and forth like a caged animal.

A male pronghorn casually stood, then bedded, about 100 feet from where a small group of us (6) were watching the wolves across the valley.



Yesterday, a bull bison was less than 50 feet from us just relaxing in our immediate area. Today, it was this buck pronghorn who bedded similarly nearby, about 100 feet, and seemed fine with our presence.



The west end of Lamar Valley, looking east into fog and clouds.

In his 1983 Martin

One last look, albeit through a dirty windshield, at the muddy Lamar River in Lamar Valley.

Approaching the Slough Creek area where the Junction Butte pups spent their first 3.5 months, until the pack moved them 10+ miles east into Lamar Valley.

Little America during my 'drive-by' as I left the park.

Bison next to the park road with wildlife watchers safely pulled over to observe them.

Bison in the Crystal Creek area of Little America as I drove west to depart the park.

'One Tree Hill' at Elk Creek. My last day in the park was the first time I stopped to take a picture of this area.

'One Tree Hill' zoomed in with fog.


Phantom Lake area. The steep hill on the right (north) side of the road is where elk like to graze on snow-free, south-facing slopes in the winter.



Left: Approaching the Phantom Lake area.

Below: Blacktail 'S Curve' and view to the south.

Blacktail Ponds area. I am always amazed that this location is a literal death trap for bison in the winter when they fall through the ice and drown. It looks so calm and peaceful here. In the background, that fog covered looking 'mound' is Bunsen Peak to the west.

Passenger side perspective of Blacktail Ponds.



Mammoth High Bridge (foreground; which goes over the Gardner River) with Mammoth Hot Springs (left) and the town of Mammoth (right) in the background.

By 9:45 AM, the maintenance worker arrived and jumped the car, which not surprisingly, started right up. I thanked the employee profusely as she turned around and headed back to Gardiner. I followed her, including getting stuck in traffic just a quarter of a mile further up the road at the park entrance/exit. The paving was proceeding in earnest and it looked like they were almost done with the construction project. However, my nerves were very high and I knew I had to make decent time to Bozeman to safely board my flight.

Luckily, the ten minute delay at the North Entrance was my last major obstacle as I drove the 75 miles north. I met Bob Crabtree in Bozeman right at 11:00 AM but a half hour later than I had intended. He drove me the final 10 minutes to the airport. I thanked him profusely for the ride and his selflessness and generosity for letting me use not just one of his vehicles, but his personal truck, which allowed me to come out on this trip. However, I was a little disappointed that those 15 or so minutes was the only time we were able to connect during this trip. Normally, I see him for at least a day and we get caught up on all things Yellowstone during those informal meetings. But such is the life of a busy person running his own organization, the Yellowstone Ecological Research Center.

My trip home was fortunately uneventful. I left Bozeman a little earlier than intended, at 12:15 PM, and flew directly to Newark, NJ. It was my first time ever flying there, especially from Yellowstone where Chicago or Minneapolis are my normal layovers. There was a 45 minute delay in Newark, which caused me to arrive in Boston at ~9:15 PM. With Steve's shuttle from the airport to my pickup truck in Revere, I was able to get back to Cape Cod a little after 11:00 PM, having a lifetime of dreams from this journey.

When I woke up the following morning, I posted this last round of pictures from the trip. I thanked all of my Facebook friends who followed my posts, noting that "I know that I posted a lot and some of you may have tuned them out which I fully understand. On the flip side, I know many of you look forward to all of the images." From a selfish point of view, posting on social media forces me to organize my pictures, especially my better ones, which greatly helps me in creating e-books, such as this one.

Writing these picture e-books involves 5 steps: 1) taking the pictures in the field; 2) processing the images by organizing and naming them; 3) posting the best (top 20-25%) images to social media and other websites; 4) taking that material and making/designing/building a book out of it; and 5) editing the book and publishing it. Posting those Facebook images gets me (or anyone that does something like this) to step 3 of 5, which is significant, albeit very time consuming while in the park. It is worth it however. As I write this book in early fall 2021 (and edit it for publishing March 2022), it is my 6th tome related to Yellowstone, including the print book, <u>My Yellowstone Experience</u>. Thanks for taking the time to read this. I hope you enjoyed it!

Epilogue: A New War on Wolves

After leaving the park on August 3, 2021, I continued to follow the happenings of the Junction Buttes and other wolf packs through the <u>Yellowstone Reports</u> website. Laurie Lyman and her colleagues continue to write daily accounts of wolves and other wildlife, especially grizzly bears. It is an amazing feat and service to the wildlife watching community!

The remaining two pups at Slough stayed there until mid-August, so they were mostly by themselves for nearly two weeks. Then in mid-August, they were observed with some adults south of the park road in Little America, before being sighted the next morning on Jasper Bench over 5 miles away. The next day they were at the Old Druid Rendezvous Site. It took them nearly two weeks to be reunited. We assumed that they hunted for insects and small rodents on their own, and were also fed by some of the adults during that time. It is interesting how they seemed to take a couple of days to travel to the new rendezvous site, whereas the first six pups got there overnight.

By the end of August, the pack went back and forth 3-4 miles between the Old Druid site at Chalcedony Creek and the west side of Jasper Bench. That new homesite wasn't as easy to view as the Chalcedony site but one morning over 30 wolves were observed together, including the pups and a few young adults from 1154's group, which was officially named the Rescue Creek Pack at the end of summer 2021. Starting in the middle to end of August, there were many bison carcasses that kept the pack well fed and fat, even the growing, gangly pups. Laurie often noted that the wolves, including the pups, looked uncomfortably full on many mornings. That is certainly a nice problem to have for a large, wild wolf pack. I am sure the pups grew rapidly as they gorged on regurgitated meat.

In addition to the daily Facebook posts, I also published additional videos after leaving the park, including:

Video-clips (3) of bison posted August 10: <u>https://www.facebook.com/jonathan.way.3/posts/10159879895100016</u>. These were some of my favorite videos of bison from my summer 2021 trip to Yellowstone. They are amazing animals and these short clips show that. The 'lion-like' grunting is because the bulls are in rut and are actively engaging females to mate with. Enjoy the clips!

August 12: Video of bison near me while I was wolf watching: <u>https://www.facebook.com/jonathan.way.3/posts/10159882981375016</u>. This is what a bull bison does when he wants to hang out near people. He seemed to be the bull that lost a sparring match versus another bull the evening before (I witnessed it). The next day he moseyed over, less than 50 feet away, as a small group of us were on the same hill looking a mile away at wolves. We kept an eye on him as he did his own thing and then eventually walked away. What an amazing animal!

August 15: Video clips (4) of wolves: <u>https://www.facebook.com/jonathan.way.3/posts/10159888804960016</u>. Here is my last sequence of images from Yellowstone summer 2021! There are 4 short clips of wolves from when they were at Slough Creek to when they arrived in Lamar Valley. It took about 2 weeks but all 8 of the pups are now together again in Lamar!

Clip 1: Watch until the end as 1229F avoids a bison on her travel route!

Clip 2: Wolf 1276F and some pups.

Clip 3: 8 pups and 6 adults together when they were at Slough Creek.

Clip 4: A short greeting with some adults and pups when they were at their new Chalcedony Creek rendezvous site in Lamar Valley.

Unfortunately, outside of the park, wolf management has taken a right-winged turn for the worse. The states of Montana and Idaho have essentially declared a war on wolves, despite livestock losses being very minor (<1% of all deaths are caused by wolves) and near record numbers of elk and deer inhabiting each state. That makes the new legislation of bounties, snares, longer hunting seasons, and new methods such as baiting and night hunting, all the more dumbfounding and politically motivated with no basis in reality. Many people asked for the government to step in and put wolves back on the Endangered Species List due to these newfound threats to the wolf population. Back in spring 2021, I was one of more than 100 scientists who asked President Biden to reverse former President Trump's 2020 nationwide de-listing (here is another article on the same subject). And then in the most direct, terrible news for Yellowstone wolves, the Montana wildlife commission, a special-interest group composed of Governor Gianforte's hand-selected picks, eliminated quotas around the park. This means that any wolf even a foot over the park boundary could be shot or trapped and killed for nearly half the year. It is truly a national travesty, and by the end of summer 2021 it appeared that the Biden administration was going to allow wolves to stay unprotected <u>nationwide</u> (except in the southwest) while the federal government 'keeps an eye on wolf populations in those states'. Thousands of people are distraught that the government could spend millions of dollars recovering a species, then allow states to literally slaughter them.

Most concerning of all was that no concessions were offered to the much more numerous wildlife watchers around Yellowstone and Glacier National Parks, who collectively spend millions of dollars on tourism per year. Wildlife management is clearly a special interest group that does not have the public interest in mind. It is a sad state of affairs and unbelieve to consider how sadistic some lawmakers can be. This <u>article is probably the most damning of them all</u>, explaining in detail the politics behind this move, and the lack of science and professionalism involved.

In some good news from mid-September 2021, the Biden administration finally listened to the millions of people that want wolves on the landscape and <u>announced they were going to review if wolves should go back on the Endangered Species</u> <u>Act</u>. It remains to be seen if they will better protect this iconic species. It should be noted that there is bipartisan support for wolves even though many conservatives who kill wolves claim otherwise.

I have plans to complete my Yellowstone book series with a fall and mid-winter trip. That will cover all of the seasons and major wolf-related events that occur on an annual basis. I hope to be able to do these in winter 2022 and fall 2022, but I am also seriously considering boycotting the state due to their harsh and unnecessary treatment of wolves and bison. I am praying that the Junction wolves and other packs don't stray outside the park boundary, or that the Biden administration comes to its senses to do the right thing and relists them as an endangered species. There are also ongoing lawsuits that might offer legal avenues to safeguard them, before it might be too late. One can only hope.

It remains to be seen if wolves will be treated as a valued wildlife species as nature intended, or if politics will determine where and how many will be allowed to live in a given area.

Postscript: Tragedy Strikes the Junction Buttes as Hunters Kill 8 Members of the Pack

After writing this book (and just prior to publishing it in late-March 2022), an entirely preventable tragedy struck the Junction Buttes: 8 members of the pack were killed during the hunting season from Fall to Winter 2021-22, with the majority very close to the park border. Starting in late-September 2021, 3 wolves from the pack – 2 pups and a yearling, all females – were shot at the beginning of the hunting season. This reduced the world-famous pack from 27 to 24 individuals. The park normally tries to be cooperative with the surrounding states, but they immediately let the world know what <u>Montana and surrounding states were doing to these famous animals</u>.

Upon hearing the news, I immediately reflected back to summer 2021 when I (and thousands of others, from all political stripes) watched all 8 pups at Slough Creek and then in Lamar Valley after their impressive move 10+ miles to the east. I reminisced watching the 2 puppies mournfully howling by themselves when they were stranded at the old den area at Slough for a couple of weeks before the pack reunited in mid-August. Now two of those pups, as well as a young adult, were reduced to a pile of bones, their body skinned to use their fur as a trophy. It was a depressing turn of events for many wolf watchers the world over.

Following this loss, as well as additional wolves from other packs dying during the hunting season, many articles came out describing how <u>Montana's wolf policies were destroying the state's reputation as a beacon for wildlife management</u> as the state promoted the callous, unscientific wolf slaughters (also read <u>here</u> and <u>here</u> for more stories). There was continued outrage by mid-December 2021 as <u>15 wolves by then had been hunted directly north of Yellowstone National Park</u>. This was the tipping point to really angering a lot of people. Many found it absolutely amazing that a few individuals were allowed to kill the most visible wolves in the world the moment they left Yellowstone. This area is nearly all federally owned land and the animals could easily have been protected if the federal government had any courage to stand up to the special interest agendas of the local states.

I mentioned that in the early fall the Junction Butte pack went down from 27 to 24 members after <u>3 were killed at the</u> <u>park boundary</u>. By the end of the year, 4 more members of the family had also been killed. They were then down to 17 wolves according to daily observations made by <u>yellowstonereports.com</u>. Just as discouraging was that the park could no longer claim they were studying wolves in a natural situation without human interference. This was truly a national travesty that could have been avoided by so many decision makers, including the Biden administration and Secretary of Interior Deb Haaland. Many environmental organizations felt that their coalitions and networks helped to elect Biden a year earlier. Now he was effectively turning his back on them.

By January 2022, hunters had killed over 20 wolves just outside Yellowstone. These were wolves who used Yellowstone over 95% of the time and only occasionally followed prey (mainly elk) outside the park. The devastation to Yellowstone packs was making <u>international news</u>. Yellowstone had about 120 wolves in the Fall and was down to 94 in early 2022. The Superintendent of Yellowstone had even written to the Governor of Montana expressing his grave concern; Gianforte wrote back with a generic, big worded letter that the 'Commission established the regulations pursuant to Montana statutes', when in fact he and his cronies were the ones who established those policies in the first place.

Perhaps not surprisingly, <u>pressure to suspend wolf hunting and trapping north of Yellowstone continued to grow</u>. <u>That</u> <u>article</u> gave the reader more information, including how 7 of the beloved Junction Butte wolves had been killed in the hunt up to that point. It repeated the oft mentioned argument that this is likely the most visible wolf pack in the world, and this was all done to appease a tiny minority of the population, even by rural Montana standards.

Finally, in late January the pressure to close hunting reached the commissioners that determine wildlife policy in Montana. The <u>state agreed to shut down wolf hunting and trapping in southwest Montana once the threshold of 82 wolves in</u> <u>that region was met</u>. Fully 25% of the kill in that huge region was in a tiny hunting unit along the Yellowstone boundary. However, this was "sort of" good news. I say that because the commissioners did nothing to protect a tiny area where over 20 Yellowstone wolves had been killed. Those wolves used Yellowstone the vast majority of the time and occasionally stepped over the border, usually following migratory elk. But now, a "harvest threshold" (written in a way to make a social, intelligent species sound like a crop) of <u>82 wolves would close the zone</u>. <u>Here is another article on the topic that is more regional</u>, describing how 500 wolves have been killed in the Rocky Mountain states during the hunting season. By mid-February 2022, the situation finally improved for wolves. They were relisted nationally, except in the 3 Rocky Mountain states surrounding Yellowstone following litigation about the politically motivated nature of the original Trump 2020 delisting (click here for another related article). Then, the hunting season surrounding northern Yellowstone was indeed closed following the quota of 82 wolves being reached in southwestern MT. No more Yellowstone wolves were killed after the late January commissioner's meeting. While all this was going on, there was a continued, <u>national push by a diversity of</u> groups and professionals – many of whom previously worked for state wildlife agencies – to relist wolves.

I visited the park for 7 days at the end of February 2022, accomplishing my desired winter visit. The pack was down to 15 members at the time, but 2 were temporarily away from the group during that week, including 1229F who I often observed in summer 2021 and is on the cover of this book. Thus, the maximum group size that I saw was 13 Junctions together. Some wolves dispersed and left the pack, including 1228F who found a mate and was often observed in Soda Butte Valley and Round Prairie during winter 2021-22 and spring 2022. The previous winter (2020-21), many wolves had split from the Junctions to form the Rescue Creek Pack. They numbered 12 individuals when I was in the park in late winter 2022. While these are certainly healthy-sized packs, the Junction pack was nowhere near the record size, super-cohesive group that they were before the hunt.

When I was in Yellowstone, multiple reliable sources informed me that hunters brazenly baited wolves at the border, literally within sight of the park boundary using elk and horse carcasses. Most concerning to many people was that this unsporting activity was now legal. Governor Gianforte not only supported but also participated in the wolf kill. Last year, he killed a trapped, collared wolf just outside of Yellowstone under questionable circumstances (read an opinion piece on that here), and did the same thing this year (winter 2021-22) with a cougar that was originally collared in Yellowstone. Both kills were suspicious (especially the wolf-kill) and went under the radar, no doubt with the Governor's office silencing Montana Fish and Wildlife personnel. It is likely that other people trapped the wolf and treed the cougar and then Gianforte drove to the sites to kill the top predators. That is Montana's current governor for you.

In early March (just after I returned from my late winter trip to the park), there was another <u>national article</u> detailing the devastation to the park wolves and specifically to the now 8 members of the Junction pack who were determined to have been killed in the hunt, along with 24 total Yellowstone wolves. The subtitle to the article, "On the 150th anniversary of America's first national park, one-third of its wolves are dead", said it all (as it referred to wolves in the northern section of the park). What was particularly apparent to me was how the article and the politics of this wolf hunt made the state of Montana look like a bunch of backward hillbillies, when in reality it is normally a pretty moderate electorate, just with an extreme governor currently dictating wildlife policies.

What the future holds for the Junction Butte Pack, nobody knows. Wolves are a resilient species but at no point in history have wolves been studied so intensively as those in Yellowstone where individuals are so well known. Time will tell how they recover from these unneeded actions against their families. I for one will be following and, when I'm out there, documenting

their recovery.



All 8 pups (5 grays and 3 blacks) of the 2021 Junction Butte Pack litter following 2 black adults.